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ANNUAL REPORT

OF THE

DEPARTMENT OF AGRICULTURE

OF THE

PROVINCE OF ALBERTA

FOR THE YEAR

1958

PUBLISHED BY ORDER OF THE LEGISLATIVE ASSEMBLY

EDMONTON, ALBERTA
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To His Honour,
J. J. BOWLEN,
Lieutenant-Governor of the Province of Alberta.

Sir:

I have the honour to submit herewith the Report of the Department of Agriculture for the year 1958.

I have the honour to be, Sir,

Your obedient servant,

L. C. HALMRAST,
Minister of Agriculture

DEPARTMENT OF AGRICULTURE
1958

HON. L. C. HALMRAST, Minister of Agriculture
R. M. PUTNAM, Deputy Minister of Agriculture

HEADS OF BRANCHES

A. M. Wilson, Field Crops Commissioner
W. H. T. Mead, Live Stock Commissioner
D. H. McCallum, Dairy Commissioner
R. H. McMillan, Poultry Commissioner
R. W. Gillies, Fur Farm Supervisor
F. L. Grindley, Director of Water Resources
F. H. Newcombe, Director, Extension Service
E. E. Ballantyne, V.S., D.V.M., Director, Veterinary Services
J. E. Hawker, Superintendent, Schools of Agriculture and Home Economics
C. L. Usher, Supervisor, 4-H Clubs
E. B. Swindlehurst, Supervisor, Radio and Information Branch
H. W. Gaebel, Secretary-Accountant
G. R. Sterling, Chairman, Land Conservation and Utilization Committee
Air Vice-Marshal G. R. Howsam, Provincial Co-ordinator, Alberta Civil Defence

Report of the Deputy Minister

(R. M. Putnam)

The Honourable L. C. Halmrast,
Minister of Agriculture.

Sir:

I have the honour to submit the Annual Report of the Alberta Department of Agriculture for the year ending December 31st, 1958.

1958 production of field crops was slightly higher than that of the previous year. Despite a dry spring, timely rains in June and July over most of the Province produced fair to good crops of cereals, fodder and special crops. Only in the Peace River district and in parts of north-eastern Alberta were crops poor. Excellent harvesting weaher was experienced resulting in cereals being of unusually high quality. An open Fall permitted farmers to harvest their fodder crops and complete much Fall work.

One of the most spectacular features of 1958 was the cattle market. Following a season during which prices were maintained at a very satisfactory level, the demand for cattle for United States markets shoved Fall prices upward to almost record levels. Exports of cattle and calves to United States markets from Alberta reached a total of 200,882 by December 31st, compared to 108,957 in 1957. Hog gradings of Alberta origin increased to 1,812,300 from 1,432,400 last year. Calves and sheep marketings were slightly lower.

Production of dairy and poultry products was a little greater than in 1957.

Some special crops produced in the irrigated sections of the Province were fractionally larger than last year with sugar beet production being a record.

Several events of significance to the industry occurred during the year. Under the Agricultural Prices Stabilization Act mandatory floor prices were established in April on nine commodities: butter, cheddar cheese, hogs, cattle, sheep, eggs, and wheat, oats and barley grown outside the areas designated by the Canadian Wheat Board. In the following months under the terms of this Act, these products of Alberta farms were also given support: dry skim milk, wool, poultry meat, sugar beets and honey.

In the Fall of the year the Government of Canada announced a Western grain producers acreage payment under which a cash payment of $1.00 per seeded acre, up to a maximum of $200.00 per farmer, was paid to farmers in Western Canada.

Another event of significance was the opening of the St. Lawrence Seaway through which a few cargoes of wheat left Great Lake ports for destinations in Europe.

Pursuant to the Marketing of Agricultural Products Act, the first producers' marketing board was established early in the year, viz., The Alberta Commercial Canning and Freezing Crops Marketing Board.

Due to dissatisfaction with the manner in which the enumeration for the plebiscite on an egg marketing plan was conducted in November 1957, the Government of the Province decided that a second plebiscite should be held. This was conducted during the summer months and the results were announced early in September. The vote on this occasion was 40.62% in favor, which fell short of the 51% required under the Marketing of Agricultural Products Act.

The Government of Alberta appointed an Irrigation Study Committee in May for the purpose of conducting a comprehensive study of irrigation in the Province. The report of the Committee was submitted to the Government in September and at the time of writing, the recommendations of the Committee are under consideration by the Government.

A fire at the School of Agriculture at Fairview on March 7th completely destroyed the building in which was located the mechanics shops, auditorium and gymnasium. Partially on account of this loss the Fairview School was closed in June and was not operated for the 1958-59 term.

One again Alberta exhibitors of agricultural products captured a fair share of the awards at the Toronto Royal Winter Fair. The World Championships in wheat and barley, and the Grand and Reserve Championship for market cattle were taken by Alberta exhibitors.

A slight increase in staff occurred during the year. On December 31st total staff consisted of 465 employees, of whom 188 were classed as technical personnel.

The retirement of B. J. Whitbread, District Agriculturist, Edmonton, on pension occurred during 1958.

Details of the activities of the various Branches of the Department are provided in the accompanying reports.

I now wish to express my personal appreciation to each and every member of the staff for their devotion to duty. I also extend the thanks of the Department to the many organizations and individuals who co-operated in any way in carrying forward our programs. I would mention particularly officers of other Departments of the Alberta Government, officials of the Canada Department of Agriculture, the staff of the University of Alberta, Alberta Research Council, Municipal Councils and others.

Respectfully submitted,

R. M. PUTNAM,
Deputy Minister.

Report of the Field Crops Branch

A. M. WILSON, Commissioner

O. G. Bratvold, Crop Improvement
W. Lobay, Soils and Weed Control
J. B. Gurba, Crop Protection and Pest Control
P. D. McCalla, Horticulture
P. D. Hargrave, Superintendent, Horticultural Station, Brooks
J. W. Edmunds, Apiculture

REPORT OF THE FIELD CROPS COMMISSIONER

A. M. Wilson

The acre yield of crops was slightly greater than in 1957 and just over the long-time average. Wheat at 20.4 bushels was 1.3 bushels per acre more than the previous year and 2.2 over the long-time average. Barley yield per acre was up two bushels over 1957 and flax three bushels. Other crop yields were approximately the same. The earlier harvest season permitted more uniform ripening and earlier combining. The quality of the crop was considerably superior to 1957 production. It is estimated that 84% of the wheat crop graded No. 3 or better in comparison to 38% in the same grades last year. Coarse grains were also superior in quality.

In north-eastern Alberta grain crops were light and hay and pastures poor. This area extended from Bon Accord to Boyle, Lac La Biche and through to Marwayne, with gradual improvement through Vegreville south to Stettler.

A very dry season was also experienced from Spirit River to McLennan and north to Keg River. After an exceptionally wet fall in 1957 in this same area it was unbelievable how quickly it dried out. Even mudded in crops dried so rapidly that germination was poor and crops unsatisfactory.

Feed shortages appeared imminent at many points in late June and early July due to lack of moisture as well as hay shipments to the drier areas of Saskatchewan. Fortunately timely rains produced an average hay crop with much of it put up under ideal conditions. Although snow cover came in mid-October, chinook winds and mild weather permitted livestock grazing in stubble fields to the year end.

The reduced acreage of durum wheat was the most notable shift in crop plantings. This crop was reduced from 492,000 to 72,000 acres. Although a decrease was expected the acreage planted was much less than earlier predictions. Low durum quotas and quantities on hand in farmers' bins induced farmers to plant what appeared to be more marketable crops. The spring wheat crop was also cut down by 177,000 acres. Barley was increased by 130,000 acres, with the greater part of this increase coming from durum in southern Alberta. Only slight changes took place in plantings of oats and flax. The oat crop was increased by 18,000 acres and flax reduced by 16,000.

The following table gives the acreages and yields of the principal Alberta crops as compared to 1957:

	Area		Bus. per Acre		Production	
	1957	1958	1957	1958	1957	1958
	'000 Acres				'000 Bus.	
Spring Wheat	4,881	4,704	19.1	20.4	93,000	96,000
Oats	2,791	2,809	34.4	34.5	96,000	97,000
Barley	3,714	3,846	25.8	27.8	96,000	107,000
Fall Rye	94.5	81.2	17.6	18.1	1,660	1,470
Spring Rye	19.5	18.5	12.3	12.4	240	230
Flax	572	556	8.6	11.7	4,900	6,500
Mixed Grain	215	225	29.3	32.9	6,300	7,400
Peas (dry)	8.5	3.6	19.5	25.8	166	93
			'000 cwt.		'000 cwt.	
Potatoes	16.6	18.7	84.0	84.5	1,400	1,580
			'000 lbs.		'000 lbs.	
Mustard Seed	92	87	772	805	71,000	70,000
Rape Seed	70	80	741	650	51,870	52,000
Sunflower Seed	.....	3.7	.....	750	....	2,775
			'000 tons		'000 tons	
Tame Hay	1,887	1,996	1.26	1.25	2,370	2,500
Sugar Beets	36.7	38.3	13.43	15.71	492.8	601.2
			'000 bus.		'000 bus.	
Durum Wheat	492	72	21.7	22.2	10,700	1,600

Crop losses from hail were less than average. Most of the damage came from one severe storm that crossed southern Alberta from near Claresholm to Medicine Hat. As is usually the case the track of the storm cut swaths ranging in width from 1 to 5 miles, through potentially high yielding crops. The loss from hail in all other areas combined was not more than one-quarter the loss from this one storm.

The long growing season and earlier maturing crops permitted the harvest of good quality grain. Very little crop was damaged by frost and most of the grain was dry when harvested.

Seed Cleaning Plants

The construction of six Seed Cleaning Plants was the main project during 1958, bringing the total number up to twenty-nine. New Plants were constructed at Innisfree, Wainwright, Radway, Vulcan, Three Hills and Sexsmith, the latter being the first Municipal Seed Cleaning Plant to operate in the Peace River area. All Plants were built with the same over-all capacity and design as in the past several years but a number of minor changes were incorporated to facilitate dust removal, cleaning out of the plant, convenience to the operators and also several changes to lengthen the life of the building and decrease maintenance costs.

The Annual Conference of the Provincial Seed Cleaning Association was held on July 15th, with 22 of the 23 plants being represented. The summary of the year's work ending on June 30th showed that slightly more than 4,700,000 bushels of grain were cleaned of which approximately 4,200,000 bushels were for seed purposes. 1,300,000 bushels were treated with mercurial fungicides and 121,800 bushels treated for wireworm control, the latter was an increase of nearly 250% over the previous year. As an average the plants cleaned 205,000 bushels each, treated 31% of the seed for seed borne diseases and showed an average loss of time due to breakdowns of only 4 hours 40 minutes per plant. The Municipal Seed Cleaning Plants have reached the point where it is estimated that they are cleaning approximately 25% of the seed sown annually by Alberta farmers. Approximately another 25% is being cleaned by 82 private seed cleaning plants which were issued permits to operate seed cleaners. The remaining 50% is either cleaned on the farm, seeded uncleaned or cleaned by dockage cleaners in the country grain elevators. The latter are normally only equipped with a large Indent type of cleaner designed to be used to reduce the dockage on grain shipped through the elevator, however, many are, although contrary to the agents' instructions, cleaning grain for the farmers to take back to the farm and seed. Where Municipal Seed Cleaning Plants are established the majority of the elevator agents discourage or refuse the use of their elevator equipment by the farmers for cleaning seed. The superior work done by the Seed Cleaning Plants usually eliminates the elevators from cleaning seed in the same area.

Considerable progress has been made toward the development of a simplified "one-write" bookkeeping system for use in the Municipal Seed Cleaning Plants which would help to unify the system and reduce the costs of bookkeeping and accounting. The system is designed to keep an accurate record of each patron's business to permit the distribution of surpluses at minimum cost.

Regulations were established under Section 26 of The Noxious Weeds Act to provide for the issuing of Classified Permits to the operators of Seed Cleaners in an effort to encourage improvement in design and operation so as to remove weed seeds and avoid admixture with other varieties or kinds. Seed Plant Classification Standards defined in the Regulations take into consideration:

1. Cleaning Equipment.
2. Operation and Management.
3. Control of Screenings.
4. Building (Stationary Plant) or construction of portable equipment.

Plants were classified as First Class if they obtained a score of 85 to 100 under each of the plant classification standards; as second class if they obtained a score of not less than 60 to 84 under each of the plant classification standards; or third class if they obtained a score of not less than 50 to 64.

The following table is a summary of the combined operations of the Co-operative Municipal Seed Cleaning Plants for each of the last three years:

	'55-'56 (15 Plants)	'56-'57 (18 Plants)	'57-'58 (23 Plants)
Total Bushels Cleaned	3,283,807	4,006,565	4,715,122
Total Seed Cleaned	2,674,521	3,559,827	4,209,953
Total Seed Treated (fungicides)	....	1,204,513	1,304,035
Total Seed Treated (wireworms)	....	49,047	121,888

CROP IMPROVEMENT

Crop Improvement Demonstration Policy

Six crop improvement projects made up the policy, which was designed to aid District Agriculturists in demonstrating the value of using recommended kinds and varieties of crops and proper use of fertilizers.

Project A: Forage Seed Production

This project is used to introduce forage seed production in areas where this type of enterprise might become important.

Seventy-five applications were received from 23 District Agriculturists. A total of 2,462 pounds of seed was used in the project. When available pedigree seed was provided.

Project B: Pasture Improvement

This project was continued to increase farmer interest in the need for better pastures.

Three hundred and fifty-one applications were submitted by 39 District Agriculturists. Amount of seed distributed was 42,322½ pounds.

In addition fertilizer was supplied to several applicants who had established pastures the previous year. The following quantities were used:

Ammonium phosphate 16-20-0	2,240 lbs.
Ammonium phosphate 27-14-0	720 lbs.
Ammonium sulphate 21-0-0	640 lbs.

Project C: Balanced Farming

This project is set up to encourage farmers to adopt suitable crop rotations. Assistance by providing forage seed was given in the second year of the rotation, at a discount of 25% for 1/6 of the acreage up to a maximum of 25 acres. There were 52 applications from 12 District Agriculturists; 13,858½ pounds of forage seed was distributed.

Project D: Field Demonstrations—Crops and Fertilizers

This project is designed to demonstrate the value of different kinds and varieties of field crops and, where advisable, the value of fertilizer on these crops. Seed and fertilizer were supplied directly to District Agriculturists without cost. Fifteen District Agriculturists used the project.

The following quantities of seed and fertilizers were used:

Total forage seed	1,020 lbs.
Ammonium phosphate 11-48-0	1,490 lbs.
Ammonium phosphate 27-14-0	640 lbs.
Ammonium phosphate 16-20-0	1,720 lbs.
Complete fertilizer 10-20-10	240 lbs.
Ammonium nitrate 33.5-0-0	910 lbs.
Ammonium nitrate 21-0-0	720 lbs.

Project E: Crop Variety Demonstration Plots

This project is used by District Agriculturists to demonstrate the varietal difference in cereals and the growth habits of forage crops.

Project F: Soil and Crop Improvement on Grey-Wooded Soils

This project is designed to aid and demonstrate to farmers the importance of forage crops and fertilizers in the successful management of grey-wooded soils. Forage seed for up to 40 acres is provided at half price to applicants who established a definite crop rotation plan under the guidance of their District Agriculturist, and who agreed to apply fertilizer at recommended rates. 1958 was the first year this project was available and 5 District Agriculturists submitted 13 applications. A total of 4,297½ pounds of seed was distributed.

Forage Crop Seed Production

Forage seed production increased considerably in 1958 over previous years. In spite of a dry summer in much of the seed producing areas, yields were quite good. Exceptionally good weather was experienced during the harvesting of the grasses with the result that quality of grass seed was maintained at a very high level. Inclement weather delayed harvesting of some of the legumes but all harvesting was completed before winter.

Forage seed prices compared favorably with that of the previous year despite increased production.

The following figures give the estimated seed production of the most important forage crops in the years 1953-1958 inclusive. The 1958 figures are preliminary estimates only:

	1953	1954	1955	1956	1957	1958
			Thousand pounds			
Alfalfa	6,700	1,815	1,100	625	200	877
Sweet Clover	5,250	5,825	4,250	6,500	3,500	5,000
Red Clover	2,600	1,635	4,000	1,200	2,500	5,750
Alsike	9,000	7,000	7,000	3,500	4,000	9,500
Timothy	235	300	500	200	250	975
Crested Wheat	235	220	100		130	260
Brome	6,000	4,775	5,000	4,000	2,250	4,500
Creeping Red Fescue	5,500	9,100	8,500	4,500	5,000	12,155

Alberta Crop Improvement Association

This Association is primarily concerned with improvement in quality of commercial grain through the use of registered and certified cereal seeds. As in preceding years all elevator agents accepted farmers orders for both cereal and forage seeds. Several seed firms, as well as individual seed growers supplied seed. Consequently accurate figures on the number of bushels distributed was difficult to obtain.

Production of Registered Seed

Cereals and Flax

In the following table, a summary is given of estimated yields of cereals and flax, inspected for registration and certification:

	1955	1956	1957	1958
	Estimated Yield (in thousands)			
Wheat	2,000	3,000	3,000	3,830
Oats	1,800	1,600	1,600	839
Barley	1,000	900	1,300	1,803
Flax	243	340	340	722

Production of pedigree wheat, barley and flax increased considerably over last year. A large percentage of this production was exported as seed and a much smaller percentage was used on Alberta farms.

Forage Seed

The table below is a summary of reported acreage of grass and legume crops inspected for registration or certification:

	1955	1956	1957	1958
Brome (Parkland)	10	10	20	......
Creeping Red Fescue (Olds)	52	48	71	30
Crested Wheatgrass (Summit)	31	22	275	1,059
Crested Wheatgrass (Nordan)	......	......	......	135
Crested Wheatgrass (Fairway)	......	......	......	726
Timothy (Climax)	20	34	612	2,563
Alfalfa (Grimm)	30	65	......	22
(Ladak)	67	5	35	5
(Vernal)	9	9	48	138
(Rambler)	......	......	23	325
Red Clover (Altaswade)	97	27	17	......
(LaSalle)	604	87	369	782
Sweet Clover (Erector)	10	5	......	......
Birdsfoot Trefoil (Empire)	......	......	3	......
(Viking)	......	......	......	3
Kentucky Bluegrass (Merion)	......	......	140	502

Distribution of Forage Seed

The Field Crops Branch in co-operation with the Canadian Forage Seed Project distributed the following amounts of registered and foundation stock forage seed:

Registered Approved Stock	**Pounds**
Creeping Red Fescue (Olds)	720
Crested Wheatgrass (Summit)	900
Alfalfa (Vernal)	535
(Rambler)	2,089½
Red Clover (LaSalle)	3,367
Timothy (Climax)	2,575
Sweet Clover (Erector)	40
Foundation Stock	
Alfalfa (Vernal)	60
Red Clover (LaSalle)	500
Sweet Clover (Cumino)	30

The Alberta Varietal Zonation Committee

This is an Advisory Committee to the Provincial Crop Production Board. Its purpose is to co-ordinate the findings of the various experimental agencies in the province with respect to grain varieties, and to recommend those most suited to the various soil climatic zones. The Committee was composed of representatives from the following: Department of Plant Science, University of Alberta; Canada Experimental Farms, Science and Production Services; and the Provincial Field Crops Branch. The Annual Meeting of the committee was held in December.

The following changes in recommendations were made: Velvon 11 was deleted from Zone 2B and Vantage from all Zones except Zones I and 2A. Parkland was recommended for Zones 2B, 2C and 2D. The only other changes were the addition of Exeter oats and Sheyenne flax to the recommended list for Zone 4C and the deletion of Rocket flax from this Zone.

Publication 91 "Varieties of Grain for Alberta" was revised.

Forage Crops Advisory Committee

This Committee is similar to the "Varietal Zonation Committee" except that its function is to deal with forage crops.

Members of the Seed Trade attended the annual meeting. A program of promotion of named varieties was discussed with a view to affecting improvements in hay and pasture production.

The Committee recommended application for the licensing of Tammisto Red Clover and for the renaming of Olds fescue to "Canolds".

Seed Drill Surveys

In 1958 Seed Drill Surveys were conducted in two Municipal Districts. Following is a summary of the results of these surveys:

District	No. 1	No. 2	No. 3	Rejected
Smoky River	36.5%	19.2%	16.3%	28 %
Leduc	55.8%	15.2%	10.6%	18.2%

There is no Municipal Seed Cleaning Plant in the Smoky River district and there are very few private plants. Of all the farmers reporting none had purchased seed from the Seed Trade; all had used their own seed or their neighbor's. 83% cleaned their seed on the farm while 17% used a local plant.

Agricultural Relief Advances Act

Due to extremely bad harvesting weather in the fall of 1957, much of the crop in the central and northern Peace River area was not harvested. Very little of this crop was recovered in the spring of 1958. Many farmers within this area were unable to finance their own seed and fuel oil requirements and applications for assistance under the Agricultural Relief Advances Act were made. A total of $120,794.59 worth of seed and fuel oil was advanced on crop liens to 593 farmers, in Improvement Districts.

The Seed Dealers Act

This Act was originally passed in 1957 and was amended at the 1958 sitting of the Legislative Assembly. One Company was charged under the Act when the selling of seed was combined with an offer to repurchase the growers production. The Company did not have a license. The case was lost on appeal as the offence was committed prior to the 1958 amendments of the Act.

Itinerant salesmen appeared again in the fall of 1958 selling seed at exorbitant prices. One charge has been made and the case will be heard in 1959.

Thirty-five licenses have been issued to seed dealers operating in the Province.

The Seed Control Areas Act

Only two such areas are in operation within the Province, viz. the Hays Seed Control Area and the Wanham Seed Control Area.

Other Activities

In addition to answering numerous enquiries, re crops, varieties and production, several talks were given at meetings and on the radio.

Other activities included judging at Seed Fairs and 4H Achievement Days and preparing articles for Agricultural Notes.

International Seed Shows

For many years the Department has given assistance to exhibitors at the International Grain and Hay Show, Chicago, and the Royal Agricultural Winter Fair, Toronto. The Chicago Show was cancelled in 1958, however, assistance was provided to exhibitors at the Royal Show, Toronto.

Exhibits were assembled and shipped to the Show by the Field Crops Branch, with shipping costs both ways being paid by the Branch. The exhibits were supervised at the Show, and in 1958 premiums were paid as follows: All prize monies won at the Royal were increased by 50%. A special honorarium of $25.00 was paid for each first prize in the classes for wheat; oats; barley; rye; flax; alfalfa; alsike; red clover; sweet clover; brome; fescue; timothy; crested wheatgrass; field beans; russet (netted gem) seed potatoes; potatoes in the Vegetable and Cooking classes and 4-H Club exhibits. Such honoraria was increased to $100.00 for championships won with exhibits of wheat; oats; barley; rye and forage seeds.

The names of the 1958 winners at the Toronto Royal Winter Fair were as follows:

World Championship:		
Barley	F. J. Schulz	Coutts
Wheat	Gail Adams	Munson
Championships:		
6-rowed barley	John T. Eliuk	Hairy Hill
Reserve Championships:		
Flax	Wm. S. Kizema	Warner
Small seeded legume (red clover)	Geo. W. Jordan	Wembley
First Prizes:		
Alsike Clover	Tom Corlett	Clairmont
Sweet Clover	Geo. W. Jordan	Wembley
Brome	D. & J. A. McNab	Beaverlodge
Cooking Potatoes	M. A. Valli & Son	Brooks

In addition ten seconds, eight thirds and seventy-one other awards were won by Albertans.

SOILS AND WEED CONTROL

Weeds

Weed abundance and resulting loss of crop this year was about average. There was an unusually high percentage of spring tillage due to late harvesting last fall. Early seeding on such fields particularly where precipitation was low resulted in heavier than usual annual weed infestations. In the north-eastern section of the province, a dry spring was experienced with some districts getting the first rain in July. This resulted in the crop giving little competition to annual weeds and a stronger establishment of perennials, particularly Sow Thistle, was evident. Sections of the Peace River area were also very dry and in many cases farmers delayed chemical control, but when the rains did come, it was too late to do effective spraying. Summerfallows generally were well looked after and went into winter in a very satisfactory condition. An open frost-free fall allowed working of fallow and stubble land until the end of October.

Weed Surveys

A further general survey was continued on the narrow-leaved Hawksbeard to determine the extent of its infestation. Its presence was noted throughout most of the central and northern part of the province including the Peace River area. Infestations were confined mainly to roadsides, pastures and abandoned fields. Much publicity was given in the spring about ts control.

A survey was conducted by this division in co-operation with Field Supervisors and Weed Inspectors to indicate the extent of control of some common weeds. A total of 62 areas which included Municipal Districts, Counties and Improvement Districts were represented, covering about nineteen million acres of cultivated land.

	No. of Areas Where Weed Is Increasing	No. of Areas Where Weed Is Held In Check	No. of Areas Where Weed Is Decreasing
Tartary Buckwheat	15*	27	7
Wild Oats	12	35	15
Couch Grass	16	33	13
Canada Thistle	27	21	14
Perennial Sow Thistle	37	14	11

---

*Only 13 of 62 areas reporting were free of Tartary Buckwheat.

The above table reveals that generally Canada and Sow Thistle were increasing, while Tartary Buckwheat, Wild Oats and Couch Grass were being held in check.

The following are the results of a survey of infestations of persistent perennial weeds conducted during 1958 in the areas served by the 43 Agricultural Service Boards and 19 Improvement District Weed Inspectors.

	No. of Areas Reporting Infestation	No. of Farms With Infestations	No. of Acres Infested
Hoary Cress	22	1,077	6,859
Russian Knapweed	15	279	254
Field Bindweed	16	1,599	3,134
Toadflax	49	6,318	29,924
Leafy Spurge	31	237	3,946
Totals		9,510	44,117

There were 13 areas where no Toadflax infestations were present.

There were numerous instances this year in the Rocky Mountain House area where poisonous weeds caused livestock losses. An early dry spring in that area probably accounted for livestock eating the poisonous weeds when grass was short. The weeds causing most concern were Larkspur and Water Hemlock.

Weed Identification

This division made available a Weed Identification Service to all District Agriculturists, Field Supervisors and Weed Inspectors. The Plant Science Department of the University of Alberta assisted with identification. One hundred and seventy-eight (178), (146 specimens in 1957), weed specimens were submitted to this office for identification. In most instances, cultural and/or chemical control measures were recommended for the weed concerned.

Field Supervisors set up 94 weed exhibits at Fairs and Short Courses so as to acquaint farmers with the different weeds found in their localities. Provincial weed supervisors assisted with many of these exhibits.

New Weeds and Weeds of Increasing Importance

(1) Scentless Mayweed or Chamomile (**Matricaria inodora**) was reported in a number of districts last year. During 1958, a survey indicated that 8 areas out of 43 have infestations of this weed to the extent of 1,480 acres and numerous patches. Control measures are being carried out in most of these areas to prevent its spread.

(2) There was no noticeable increase in the prevalence of Forked Catchfy (**Silene dichotoma**), which appeared for the first time in Alberta (Peace River) last year.

Noxious Weeds Act

(a) Legislation

A Noxious Weed Order (Alberta Regulation 279/58) was passed under the Noxious Weeds Act declaring Scentless Mayweed (**Matricaria inodora**) to be a Class B Noxious Weed throughout the Province.

(b) Inspection and Enforcement

The Branch employed 19 Weed Inspectors to enforce the Noxious Weeds Act in Improvement Districts. Four Weed Supervisors, located at Fairview, Vermilion, Lethbridge and Edmonton, were employed to assist Field Supervisors and Weed Inspectors in Municipalities and Improvement Districts. Municipalities not having Agricultural Service Boards employed 10 Weed Inspectors during the summer months. The 43 Field Supervisors, who are also Weed Inspectors, had 67 summer assistants. The weed inspection force in Alberta totalled 139 men. This was an increase of 3 over last year.

Weed Inspectors, Field Supervisors and assistants issued a total of 2,119 notices to destroy Noxious Weeds covering 49,216 acres. They issued notices prohibiting seeding of land to crops in 1959, on 21,998 acres. There were 4 Court prosecutions under the Noxious Weeds Act where action was not taken by farmers when notices were served.

Field Supervisors indicated they spent an average of 54% of their time on weed control work and together with their assistants visited 17,484 farmers on weed control.

Chemical Weed Control

(a) Soil Sterilants

This Branch continued the policy of distribution of soil sterilants through Municipalities to farmers at cost. The soil sterilants which were available during 1958 were Sodium Chlorate, Polybor Chlorate, DB Granular and Concentrated Borascu. Concentrated Borascu was introduced this year since preliminary trials in Alberta and work done in other provinces seemed very promising. Most of the sterilants were used for Toadflax control. Other weeds on which sterilants were used included Leafy Spurge, Hoary Cress, Field Bindweed, Russian Knapweed, and Couch Grass. Total distribution of soil sterilants increased considerably during 1958 with 340,021 pounds being distributed as compared to 229,239 pounds during the previous year. This increase was due to a new special project assistance under the Agricultural Service Board Program.

The following table show the amounts of soil sterilants distributed during the past five years:

	1954	1955	1956	1957	1958
Sodium Chlorate	414,948	347,784	379,718	190,449	222,656
Polybor Chlorate	24,984	21,450	34,550	20,090	35,265
DB Granular	....	....	7,050	18,700	57,450
Concentrated Borascu	....	....	....	....	24,650
	439,932	369,234	421,318	229,239	340,021

A total of 17,000 pounds of TCA was used during 1958, a decrease of some 10,000 pounds from 1957. This is due to the introduction of some other quite effective grass killers, such as ATA and Dalapon. TCA was used largely for the control of Couch Grass.

(b) **Selective Herbicides**

More acres were treated with selective herbicides for weed control during 1958 than in any previous year. The 1958 treated acreage was 130.5% of the 1957 acreage. The total acreage in cereals in 1958 was 12,750,000. The treated acreage represents about 43% of this total. The following table shows the total acreage treated during the past five years.

Year	1954	1955	1956	1957	1958
Acreage Crops Treated	2,981,000	4,250,000	4,360,000	4,067,000	5,307,000

The following figures show the acreages treated by various common methods of application and the type of formulation used:

Acreage Treated With 2,4-D and/or MCPA	Percent of 1957	Method of Application			% Ester of 2,4-D Used
		% Sprayed	% Dusted	% Aircraft	
5,307,000	130.5	98.3	1.7	0.7	93.2

The amount of MCPA used has been on the increase during the last few years. This year the total sprayed with MCPA was 1,051,000 acres. It is of interest to note that of the total of this herbicide used 52% was ester, 44% amine and 4% sodium salt type.

The acreage treated by aircraft was 38,000 acres for 1958 which compares with 52,000 acres for 1957, a decrease of 27%.

Agricultural Service Boards were active in encouraging farmers to spray crops for weed control. Twenty-six (26) municipalities through their Boards handled selective herbicides making them available to farmers at cost.

The following table compares the extent of selective herbicide used in Field Crops in Alberta in 1958, as compared with its use in other prairie provinces:

Field Crops Treated in 1958

Province	2,4-D and /or MCPA (Acres)	Percent of 1957
Manitoba	2,089,000	69.4
Saskatchewan	5,223,000	62.8
Alberta	5,307,000	130.5
British Columbia	118,000	143.9

Dormant brush spraying trials on pastures and roadsides were set out on the Bohomolec Ranch at Kevisville. This work will be continued.

Weed Control Trials and Demonstrations

This division continued its extensive weed control demonstration program in conjunction with Agricultural Service Boards throughout the province.

The series of more than 25 plots set out in 1957 throughout the province were expanded to include many new chemicals with the intent of finding a more economical control method for persistent perennial weeds. Observations are continuing to find out the length of soil sterility and the control of weeds with these chemicals.

Provincial Weed Supervisors along with Field Supervisors and Weed Inspectors placed various chemicals on problem weeds in their localities. These weeds included Toadflax, Leafy Spurge, Field Bindweed, Water Hemlock, Hoary Cress, Scentless Mayweed, Tansy and others.

Two new herbicides were tested in various areas of the province. These were butyric type, selective weed chemicals known as 2,4-D B and MCPB, used in the control of weeds in legume crops or in cereal crops under-seeded with legumes. Tests were very promising for the control of such weeds as Canada and Sow Thistle, the Mustards, Lady's Thumb and other weeds susceptible to 2,4-D. Legume crops included in tests were alsike clover, alfalfa, sweet clover and peas. The chemicals were distributed by this Branch for the test and results were compiled and distributed.

Crown Lands

Soil sterilants, grass seed and 2,4-D were made available for use on weed infestations on Crown lands. A total of 530 pounds of soil sterilants and a supply of 2,4-D were distributed to Weed Inspectors under this policy. The soil sterilants were used mainly for Toadflax control.

Roadside Seeding and Spraying

(a) Alberta Highways

Th policy of seeding Government highways was continued with a record number of miles seeded. The Department of Highways supplied the seed and the Field Crops Branch provided the equipment and did the seeding. The following table indicates the number of miles seeded and the amount of seed used in the past five years.

	No. of Miles Seeded	Pounds of Seed Used
1954	200	11,995
1955	453	23,796
1956	431.5	24,395
1957	438.2	25,810
1958	623.36	44,780

The average number of pounds of seed used per mile was 64.7 as compared with 58.9 pounds per mile the previous year.

The following are the amounts of grass or legume seed by kinds, used on highways in 1957 and 1958.

	1957	1958
Brome	6,330 lbs.	9,612 lbs.
Creeping Red Fescue	6,630 lbs.	13,055 lbs.
Alsike	11,460 lbs.	16,551 lbs.
Crested Wheat	800 lbs.	3,347 lbs.
Timothy	....	1,305 lbs.
Alsike-White Dutch	490 lbs.	10 lbs.
Kentucky Blue Grass	100 lbs.	900 lbs.
	25,810 lbs.	44,780 lbs.

Of the above 1958 total 4,470 pounds of forage seed and additionally 16 bushels of rye was used for special cases such as median strips, clover leafs, fill banks, etc.

Of the 623 miles seeded 412 were seeded in the spring and the remainder in the fall. The following mixtures were generally used for the spring seeding:

(a) **Northern and Central Alberta**

Brome—1 part by weight
Creeping Red Fescue—1 part by weight
Alsike—2 parts by weight

(b) **Southern Alberta**

Brome—1 part by weight
Creeping Red Fescue—1 part by weight
Alsike—1 part by weight
Crested Wheat Grass—1 part by weight

In the fall, only highways in the central and northern portions of the province were seeded using the following mixtures:

Brome—1 part by weight
Creeping Red Fescue—1 part by weight
Alsike—2 parts by weight
Timothy—10% by weight of total mixture

In conjunction with the Department of Highways a trial at the Fort Saskatchewan bridge was set up to test methods of seeding steep slopes. This trial compares loaming, ridging and terracing of slopes and the application of a water-asphalt emulsion. Observations will be continued in 1959 to determine the advisability of such work in special cases.

(b) **Municipal Roads**

This Branch continued its policy of supplying suitable forage mixtures for seeding demonstration areas on newly constructed back-sloped roads in Municipalities having Service Boards. The following table indicates the amount of seed supplied by the Branch and the total number of miles seeded. The table also indicates the extent of mowing and spraying done by Municipalities.

	Pounds of Seed Supplied	No. of Miles Seeded	No. of Miles Mowed	No. of Miles Sprayed
1955	30,408	1,041	7,500	6,500
1956	28,500	1,818	12,018	12,486
1957	32,785	1,624	11,817	14,890
1958	37,850	2,216	20,083	17,220

The 1958 seed supply for Municipal roadside seeding of back-sloped roads consisted of the following quantities:

	Pounds
Brome	7,550
Creeping Red Fescue	11,350
Timothy	3,750
Alsike	8,100
Crested Wheat Grass	7,100
Total	37,850

This was 5,065 pounds above the previous year's total.

Agricultural Service Boards

Three new Agricultural Service Boards were formed during 1958 making a total of 45 in operation. These were in the Municipal Districts of Provost and Lethbridge, and one for the Improvement Districts 58 and 65 at Rocky Mountain House.

Under The Agricultural Service Board Act there was a total of 155 parcels of land placed under supervision and 45 parcels were released from previous supervision. 241 parcels were under supervision during the year and forty-five parcels were under reclamation orders. During the year fifteen new parcels were placed under reclamation and two were released.

Agricultural Service Boards held 38 tours during 1958, and 195 Field Days and meetings with 7,348 people in attendance. The purpose of these tours and meetings was to acquaint Board members and ratepayers with the various soil, weed and other agricultural problems in their area and to show the work done by the Board.

In addition to weed control and soils work the Boards had also undertaken such programs as Brucellosis control, tree planting and pest control programs in conjunction with the Department.

Service Board Agreements

Each Municipal District, County or Local Improvement District with a Service Board was eligible for a maximum grant of $2,400 under the General Service Board Agreement. This compared with a maximum of $2,200 the previous year. There was an additional grant for Brucellosis control and for constructing seed cleaning plants. In addition, forty-one of the forty-five Boards made use of a special assistance grant for control of persistent perennial weeds and for soil conservation. Applications for grants under these special projects varied from $20.00 to $1,200.00, the latter being the maximum available to any one municipality.

Soil Conservation

Moisture conditions were generally good in Alberta during the spring and summer. Soil erosion by wind caused some damage during seeding operations in May. There was also a threat of winter and early spring soil drifting in southern Alberta and while a lot of drifting occurred for a short period on fall cultivated land snow in late winter averted wide spread damage.

Severe water erosion was evident in many areas of west-central Alberta during storms in June and July. Publicity by way of radio, press releases and a new "Prevent Gully Erosion" poster were used throughout the year, advising farmers to take preventive measures. Spring run-off took its usual toll in removing top-soil by sheet and rill erosion. Gully erosion was also evident as a result of spring run-off. Many gullies formed during previous years were enlarged because farmers failed to take remedial measures.

A fall survey indicated an increase in the amount of damage caused by wind erosion and a decrease in damage done by water erosion as compared to the previous year. In 43 municipalities water erosion caused damage on an estimated 702 parcels of land and 3,555 parcels were damaged by wind erosion. District Agriculturists and Field Supervisors in co-operation with this Branch held 45 soil conservation demonstrations.

Soil conservation and weed control demonstrations were established on 41 farms by 17 District Agriculturists. A total of 8,956 pounds of forage seed was distributed. This is 3,549 pounds more than the previous year. The policy was designed to assist District Agriculturists to establish soil conservation demonstrations on farms. It makes available cereal and forage seed, and fertilizer at one-half cost to seed up to ten acres of land. Many of these demonstrations were used for fertilizer trials on forage crops.

Fourteen municipalities participated in the soil conservation and weed control project designed to assist them in handling farms placed under supervision or reclamation as provided for under the Agricultural Service Board Act or land which has been placed under a "Prohibit to Seeding" order by a Weed Inspector. The policy provides assistance to supply sufficient forage seed at half cost to plant thirty acres. Under this policy 15,718 pounds of legume and grass seed was distributed.

Save The Soil Campaign

The "Save the Soil" competitions were carried on in only three municipal districts—Sturgeon River No. 90, Strathcona No. 83, and Stony Plain No. 84, with 14, 13 and 16 entrants respectively. Six of the 43 entrants were new. Framed certificates, signed by the Minister of Agriculture, were officially presented to 14 farmers at the Agricultural Short Course held at Edmonton.

It is interesting to note that a number of former "graduates" of the "Save the Soil" campaigns were entered in the "Farm and Home Improvement" programs in 1958.

Soil Fertility

Field Supervisors and District Agriculturists, in conformity with Service Board programs approved by this Branch, set out numerous fertilizer trials. This Division outlined and assisted in a number of special trials and completed the summarizing of results. Two fall fertilizer trials on forage crops, one each in the Barrhead and Vermilion areas, were also set out. These will be observed next year with the summary of results to be reported to the Fertilizer Advisory Committee.

The use of fertilizer increased 25.1 percent in Alberta with 47,952 tons being sold as compared with 38,337 tons in 1957.

A new "Fertilizer Recommendations for Alberta" publication was printed early in 1958. This publication contains recommendations for use of fertilizer in the various soil zones of Alberta and was an up-to-date supplement to the much larger publication "Fertilizers in Alberta".

The Supervisor was Secretary of the Alberta Advisory Fertilizer Committee.

Miscellaneous

A two-day Agricultural Service Board Conference was held at Edmonton in June with a Field Supervisor, a District Agriculturist and one Municipal Council member attending from each Service Board. In addition five regional Agricultural Service Board meetings were held during the year.

A special meeting and Conference of Local Improvement District Weed Inspectors was held in Edmonton at the beginning of the weed inspection season with ten Inspectors in attendance. A similar session was held in the Peace River with all Weed Inspectors in the area attending. A questionnaire was completed by each Weed Inspector at the end of the season and the results compiled for the information of all Weed Inspectors, Field Supervisors and District Agriculturists.

The initial meeting of what was recommended to become "The Alberta Advisory Weed Committee" was held in December. It was an advisory committee to the Alberta Advisory Crop Production Board, on matters relating to weeds and weed control. The first meeting was held in December with members of the three Experimental Farms, the University Plant Science Department and the Field Crops Branch attending. The Supervisor of Soils and Weed

Control was elected Chairman of the committee with the Assistant Supervisor as Secretary.

A number of publications were printed during the year, including a poster on "Prevent Gully Erosion", "Suggestions for the Use of Soil Sterilants", and an addendum to "Weed Control With Chemicals" on the correct use of 2,4-D and MCPA. The publication "The Control of Canada and Sow Thistle" was also revised.

The Supervisor and Assistant Supervisor of Soils and Weed Control attended 33 Agricultural Service Board meetings, went on 14 tours, and made 103 field trips investigating weed and soil problems. They spoke at 40 Agricultural Short Courses or Field Days with approximately 800 people in attendance. They also judged at four 4-H Grain Achievement Shows and one 4-H Potato Club Achievement Day.

Sixteen radio talks were given and 19 press releases were made through "Farm Notes"on timely soils and weed subjects.

The Supervisor continued to act as Secretary of the Conservation and Land Utilization Committee.

The Province of Alberta is a member of the North Central Weed control Conference (NCWCC) with the Supervisor as one of the Directors. Fourteen (14) North Central States and the three Prairie Provinces comprise the membership of the Committee. This Branch participated fully in all the competitions sponsored by the organization. The awards for outstanding weed control work, extension and regulatory, were won by Albertans. Mr. R. C. Moffat, District Agriculturist at Grande Prairie, won the Extension Award, and Mr. G. W. Philpott, Field Supervisor, County of Newell, No. 4, Brooks, the Regulatory Award. Both winners received an all expense paid trip and attended the Conference at Cincinnati, Ohio, in December, where they were formally presented with the awards. The Provincial Award of $25.00 for the Weed Essay Competition was won by Miss Anne King of Rimbey.

CROP PROTECTION AND PEST CONTROL

CROP PESTS

Grasshoppers

The infested area in southern Alberta covered 3,110,000 acres as compared to 1,700,000 acres in 1957. Of the total infested area, 230,000 acres were rated moderate and 2,880,000 acres as light. The infested area extended from Ranges 11-17 at the Montana border, north-east through Whitla to the South Saskatchewan River, then through Taber to Retlaw and Carmangay in the north-west. A light infestation occurred in the Pincher Creek-Cowley area. The migratory grasshopper was the worst pest species. Infestation was heaviest in the Macleod area. Some damage resulted in non-treated fields. Scattered outbreaks occurred in the Hilda-Schuler and Bindloss areas but spraying brought effective control. Wet weather and good growth generally minimized damage.

Under the grasshopper policy, Aldrin and Dieldrin insecticides were distributed at cost price from stockpiles strategically located throughout the province. The following table shows the 1958 situation and control program with 1955-57 data listed for comparison purposes:

	1955	1956	1957	1958
Acres Land Infested	2,500,000	1,900,000	1,700,000	3,110,000
Acres Crop Menaced	10,000	2,000	3,000	150,000
Acres Crop Destroyed	200	100	100	200
Lbs. Tech. Aldrin Spray Used	875	200	50	4,250
Lbs. Tech. Dieldrin Spray Used	... ...	....	....	70
Lbs. 2½% Aldrin Dust Used	100	.....	....	3,700
Acres Treated	7,000	3,000	400	35,500

The above figures are estimates. Materials listed were supplied from Department stocks and do not include insecticides from commercial outlets.

Copies of the 1958 grasshopper policy were distributed to all Municipal and District offices. The grasshopper forecast and map, as prepared by Science Service, were printed and distributed throughout the province. The bulletin "Grasshopper Control" was prepared and distributed. Some 2,400 gallons Aldrin spray were reformulated to improve emulsibility and to maintain standard strength. Dieldrin spray was stocked to reduce the spraying cost from 25 cents to about 15 cents per acre. The 1959 forecast predicts a more extensive outbreak with an increased grasshopper population.

Wheat Stem Sawfly

The sawfly population and damage in southern Alberta was low. Large acreages of unfavorable hosts such as durum, mustard, rapeseed, sunflower and flax helped to reduce damage. Rescue and Chinook were grown on 6.9% and Durum on 4.9% of the total wheat acreage. Forecast maps prepared by Science Service were distributed to Municipal and District offices.

Cutworms

Pale western cutworms are gradually increasing but only slight damage was reported in south-western Alberta. Since May and June were dry, it is expected that the increase will continue in 1959.

Army cutworms were less numerous than in 1957. There was some slight damage at Bow Island.

Red-backed cutworms occurred in large numbers and covered a more extensive area. Rather extensive damage occurred in parts of the foothills, parkland and wooded areas. The infestation extended from the south-west corner of the province along the foothills to Fort St. John, B.C. and north-east from High River-Drumheller to Wainwright and north. Areas showing extensive infestation and damage were Lacombe, Wainwright, Vermilion, Edmonton-Morinville-Westlock, Athabasca and Grande Prairie. A 50 acre field of potatoes in the Lougheed area was attacked and sprayed with Endrin. In the main, severe damage occurred on summerfallow and crop land that was weedy during the 1957 summer. Destruction of large portions and entire fields necessitated reseeding. Damage terminated at the end of June.

Insecticide sprays such as Endrin, Dieldrin and Aldrin were used to destroy worms and to permit earlier seeding or reseeding. Since commercial supplies were low the Department bought and distributed at cost 130 gallons Endrin, 400 gallons Dieldrin and 340 gallons Aldrin to help control the outbreak. Some 24,000 acres of field crops and 150 acres of home gardens were treated. It is estimated that one-quarter million acres were infested. Several timely mimeograph, radio and other reports were issued to recommend control measures. Numerous field investigations and identifications were made. Fall surveys showed an average count of 18 eggs per square foot in the Morinville area. The 1959 Forecast by Science Service predicts continued heavy infestation. This report along with summerfallow control measures was disdistributed to Municipal and District offices.

Wireworms

Population and damage were at a low level. It is estimated that 2% of the grain crop in southern Alberta was infested. There was some damage to sugar beets at Turin; potatoes were infested at scattered points, mostly on sandy soil. Improvement is considered primarily due to increased seed treatment. During 1958, Municipal seed cleaning plants treated 121,800 bushels for wireworm control as compared to 49,000 in 1957.

Beet Webworm

The outbreak of webworm was the most severe in the last 20 years. Most sugar beet fields were heavily infested and had to be sprayed once or more. Flax, mustard, rapeseed, alfalfa and even some cereal crops were attacked, throughout the irrigation area and at scattered points to north of Edmonton. An estimated 38,000 acres of sugar beets and 50,000 acres of other crops were sprayed.

Diamond Back Moth

Larvae of this pest occurred on mustard and rapeseed crops at scattered points. Over 2,000 acres were treated to control damage.

Alfalfa Weevil

Since discovered in the Milk River valley in 1954, this weevil has spread northward. During 1958 it was found for the first time north of the Oldman River, in the Scandia district. In older infestations, the population is becoming heavy enough that chemical control will be necessary during 1959.

Sweet Clover Weevil

Infestation continued at a high level in most areas. Serious damage occurred at High River, Strathmore, Edmonton and Athabasca. In many areas, overwintering adults destroyed early growth to the point of complete loss. Often the damage was blamed on winter-killing. Several timely releases on cultural and chemical control were made. Several thousand acres were sprayed with Department stocks of Chlordane and Aldrin. Heptachlor spray was recommended because of its shorter residual on forage.

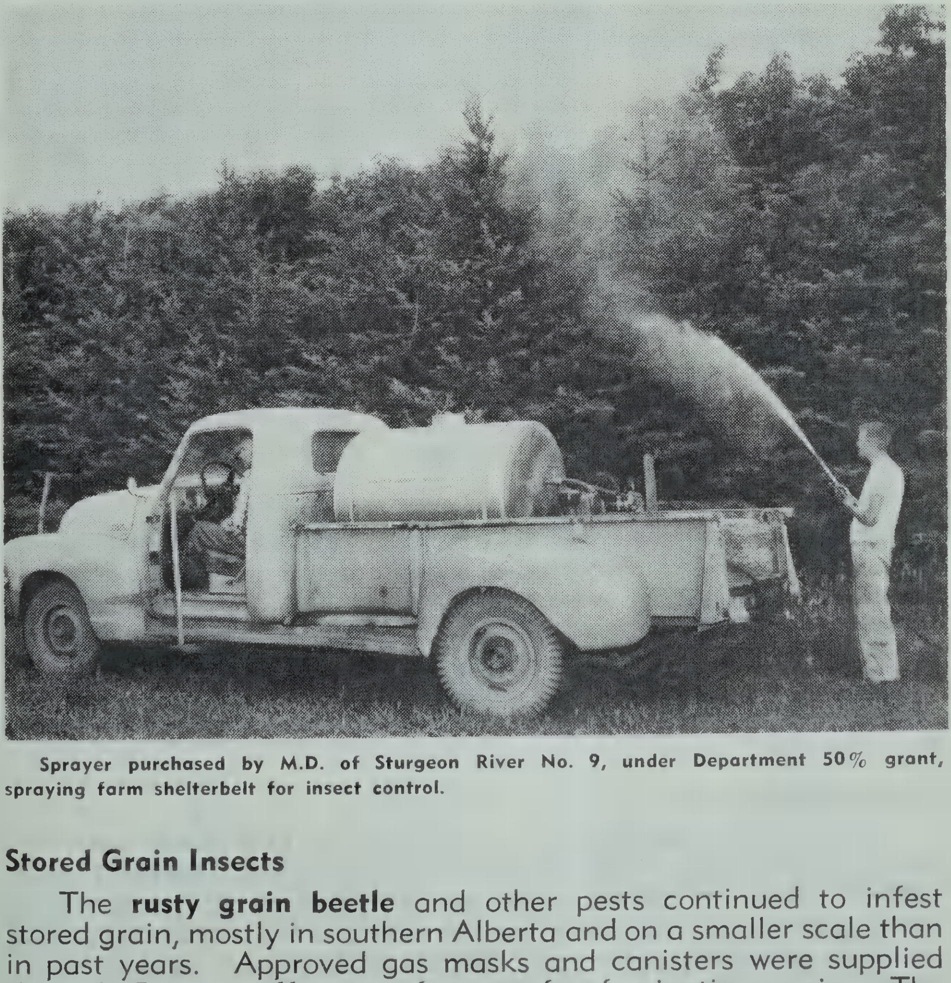
Vegetable and Special Crop Insects

Colorado potato beetle was below normal but some fields in the irrigation area were sprayed. **Sugar beet root maggot** continued to attack crops on light sandy soil, particularly in the Turin and Taber areas with losses up to 50%. Some infestation occurred on heavier soils at Coaldale. Over 5,000 acres were effectively treated with a Heptachlor fertilizer mixture. **Root maggots** of cruciferae and onions infested most commercial and garden crops, causing damage up to complete loss. Good control was obtained by using recommended chlorinated hydrocarbons. Publication 130 "Control of Garden Pests" continued in high demand for information on various garden pests. A mimeograph "Chemical Control of Insect Pests—1958" was prepared in co-operation with Science Service and supplied to all Municipal and District offices.

Shelterbelt Insects

During the dry summer of 1958, **spruce** and **larch sawfly** were slightly lower; **spider mite** and **spruce aphids** were higher in numbers and damage. **Bruce spanworm, aspen tortrix** and **willow-leaf beetle** continued to defoliate poplar and willow. **Forest caterpillars** increased along the foothills and along the North Saskatchewan River from Fort Saskatchewan to Elk Point. **Pear slug** did considerable damage to cotoneaster hedges and other ornamentals.

A Department sprayer grant policy was established during 1958. Municipalities could apply for a grant, covering one-half of the purchase cost of spraying equipment, up to a maximum grant of $600.00 per district. Such sprayers are to be used only for insecticide application on shelterbelts, livestock and other insect problems. During 1958, six Municipalities obtained sprayers under this Agreement; namely, M.D. of Rocky View No. 44, M.D. of Sturgeon River No. 90, M.D. of Provost No. 52, M.D. of Eagle No. 81, M.D. of Lacombe No. 64 and County of Wetaskiwin No. 10. Some 160 shelterbelts were sprayed by Department and Municipal sprayers.



Sprayer purchased by M.D. of Sturgeon River No. 9, under Department 50% grant, spraying farm shelterbelt for insect control.

Stored Grain Insects

The **rusty grain beetle** and other pests continued to infest stored grain, mostly in southern Alberta and on a smaller scale than in past years. Approved gas masks and canisters were supplied through District offices to farmers for fumigating grain. The Lethbridge office serviced 18 farms that fumigated ¼ million bushels of grain.

Other Insect Pests

Larder and **carpet beetle** were identified for several areas. **Red clover mite, strawberry weevil** and **Manitoba maple bug** continued as pests that invaded many houses. The **red spider mite** was severe on shade trees, ornamentals, raspberries, currants and other plants. During the dry season scavenging **wasps** continued a nuisance in raspberries, gardens and around homes. Some 300 insects were identified and control information supplied as requested.

CROP DISEASES

Diseases of Cereals

Smuts and **root rots** of wheat and barley were less prevalent, with take-all being most common in the parkland area. There were a few severe cases where wheat followed wheat on stubble or backsetting. **Leaf rust** and **stem rust** occurred only in trace amounts.

Blast and **halo blight** in oats was less serious than usual. **Covered** and **loose smut** of oats was reduced but enough was observed to indicate the need for proper seed treatment.

Generally leaf diseases of barley decreased in incidence in proportion to reduced rainfall. **Scald** and **net blotch** were prevalent in the moister areas of the foothills and southern Alberta.

Recommendations for disease control by crop rotation and seed treatment were made at every opportunity. Data on 5 years of fungicide trials was supplied to all Municipal and District offices. Municipal seed cleaning plants treated 1,300,000 bushels of seed for seed-borne diseases.

Diseases of Other Crops

Flax rust was less prevalent than in former years. **Rust** on safflower occurred on some fields of this new oil crop. Since this disease overwinters on crop residue similar to flax rust, growers are being advised to take preventive measures. **Fire blight** was unusually prevalent on apples and related ornamentals during the season.

Diseases of Potatoes

(a) General

All inspected potato fields showed varying amounts of common diseases as **blackleg, rhizoctonia, scab, leaf roll** and **wilts**. Blackleg continued as the most prevalent disease. The dry summer of the north-central part helped to keep most diseases below normal; the disease situation was about average in the south where rainfall was higher. Some fields in northern areas showed premature vine-killing due to a combination of early blight, rhizoctonia, wilts and drought.

(b) Bacterial Ringrot

The control program was continued in the Pest Areas established in the province. Ringrot infected stocks were directed for disposal by the middle of March to prevent planting of diseased seed. Most growers co-operated well, moving all stocks, including culls, in adequate time. Some 21 official notices were served in the Brooks, Vauxhall and Lethbridge areas, where action had not been taken by the deadline. An early road ban in the irrigation area held back delivery of some stocks.

A list of available certified seed potatoes was supplied to all commercial growers in Pest Areas. For the third year, growers with Ringrot were required to plant only seed of certified stock or seed grown on a separate, approved seed plot. Most cellars were cleared and disinfected before seed supplies were moved in. Records would indicate that growers not taking these basic precautions carry-over Ringrot infection from the old crop to the seed crop.

The Bacterial Ringrot Survey of the 1958 crop began on August 25th, with 15 inspectors employed. Weather conditions were generally favorable and most inspections were completed without frost interference. In all areas, re-inspection of doubtful cases were made.

The following table shows the potato situation and survey results, with 1953-57 results included for comparison purposes:

Pest Area	Year	No. Farms Inspected	No. Farms Diseased	Acreage Inspected	Acreage Diseased	% Diseased	
						Farms	Acreage
Lethbridge	1953	281	58	3,977	1,144	22.4	28.7
	1954	276	17	3,911	144	6.2	3.7
	1955	285	47	4,500	1,111	16.5	24.7
	1956	261	45	5,173	1,401	17.2	27.1
	1957	247	63	4,826	1,280	25.5	26.5
	1958	234	65	5,108	1,091	27.8	21.4
Calgary	1953	66	5	191	26	7.5	13.6
	1954	87	0	271	0	0	0
	1955	68	9	308	44	13.2	14.2
	1956	50	6	300	27	12	9
	1957	34	1	162	1	2.9	.6
	1958	35	4	253	36	11.4	14.2
Drumheller	1957	9	0	32	0	0	0
	1958	8	0	16	0	0	0
Brooks	1953	61	3	1,160	65	4.9	5.6
	1954	58	7	1,131	134	12.0	11.8
	1955	56	8	1,110	151	14.3	13.6
	1956	56	13	1,222	228	23.2	18.6
	1957	43	11	1,538	285	25.6	18.5
	1958	42	5	1,486	132	11.9	8.9
Edmonton	1953	195	9	2,202	144	5.2	6.5
	1954	210	3	2,291	39	1.5	1.8
	1955	190	14	2,050	101	7.4	4.9
	1956	200	38	2,602	608	19	23.3
	1957	152	26	2,225	343	17.1	15.4
	1958	153	26	2,370	363	17.0	15.3
Total	1953	603	75	7,530	1,379	12.4	18.3
	1954	631	27	7,604	317	4.3	4.2
	1955	599	78	7,968	1,407	13.0	17.6
	1956	567	102	9,297	2,264	17.9	24.3
	1957	485	101	8,783	1,909	20.9	21.7
	1958	475	100	9,233	1,622	21.1	17.6

A total of 475 farms comprising 9,233 acres were inspected. The general tendency toward fewer growers with larger acreages continued.

The Lethbridge area showed a slight increase to 65 over the 63 infested farms of 1957. Percentage diseased acreage dropped from 26.5 to 21.4

The Calgary area showed an increase from 1 infested farm in 1957 to 4 in 1958 with percentage diseased acreage increasing from 0.6 to 14.2.

No ringrot was found in the Drumheller area for the second consecutive year.

The Brooks area showed a significant decrease from 11 infested farms in 1957 to 5 in 1958 with percentage diseased acreage decreasing from 18.5 to 8.9.

The Edmonton area showed no change over 1957 with 26 infested farms and 15.3% diseased acreage.

In the over-all picture, there was little change with 100 infested farms compared to 101 in 1957. Percentage diseased farms remained about the same but the percentage diseased acreage dropped from 21.7 in 1957 to 17.6. In the majority of cases only trace infections were found—often 1 or 2 plants in large fields. Thus, the objective of avoiding farm losses and preventing spread is being achieved.

Growers made good use of disinfecting facilities provided at low cost by the Department. High pressure sprayers operating out of Edmonton and Lethbridge disinfected 69 cellars in the Pest Areas. All growers with Ringrot infection were contacted personally several times. The Supervisor, his Assistant and 2 Fieldmen operating out of Edmonton and Lethbridge interviewed all cases to advise and assist with control measures. The circular "Bacterial Ring Rot Control", disease charts, seed lists and other information were distributed to all commercial growers.

The co-operation and assistance of Plant Protection Service and Plant Pathology Laboratories, Canada Department of Agriculture, are hereby gratefully acknowledged.

LIVESTOCK PESTS

Warble Fly (Cattle Grub)

Warble grubs and flies were about a month earlier due to the warm spring. There was considerable interest in new systemic insecticides. Trolene, applied orally in bolus form, was released for public use in 1957 and Co-Ral, applied as a spray, was made available during 1958. The systemic trials conducted during the fall of 1957 indicated effective grub control was possible. No undesirable side-effects resulted where recommendations were followed. During the fall of 1958, ten co-operative spraying trials were conducted in the Municipal Districts of Sturgeon River, Strathcona, Lac Ste. Anne, Eagle, Flagstaff and Paintearth and the Counties of Beaver and Thorhild. The objective was to obtain more information on control of warbles and lice by systemic use under farm conditions.

There were 83 spraying demonstrations conducted with Department and Municipal equipment. As a service feature, 363 herds with 22,000 cattle were sprayed for warbles by Agricultural Service Boards. The Board of the M.D. of Wheatland No. 40 sprayed over 7,000 cattle. It is estimated that ½ million cattle were treated for warbles during 1958 with rotenone treatment in spring and systemic type use in the fall. Information on control and the use and precautions for systemics was distributed. Publication 98 "Warble Fly Control" was revised and distributed.

Cattle Lice

Cattlemen expressed more concern over lice in cattle. Trials conducted during the fall of 1957 indicated that Co-Ral systemic spray controls lice and warbles effectively with one application. Preliminary reports from the 10 spraying trials of this fall confirm the effectiveness of systemic spray for cattle lice control. Cattlemen showed keen interest in the "one-shot" fall treatment for lice and warbles; large numbers attended spraying demonstrations.

There were 56 spraying demonstrations conducted with Department and Municipal equipment. Agricultural Service Boards also sprayed 205 herds, with about 10,000 cattle, for lice. The Board of the M.D. of Kneehill No. 48 sprayed 3,600 head. An estimated

225,000 cattle were treated for lice in 1958. Publication No. 73 "Louse Control in Cattle" was revised and distributed.

Magpie Control

Reports received indicate that magpies are becoming an increasing source of damage to livestock. During 1958 the responsibility for magpie control in the agricultural areas was assumed by the Department of Agriculture. Under the Setting of Poison Act, the magpie was named a predator in November 1958. Information obtained from two years extensive field work on control methods has been incorporated into bulletin form. In addition to field trials carried out in 1957 a total of 17 experimental poison sets were placed on farms in the Redwater, Vegreville, Edmonton, Lacombe, Tofield and Stettler areas. Live traps were built and used to determine the value of alternate control methods. A demonstration program was outlined for District Agriculturists, Field Supervisors and Pest Control Officers to acquaint farmers with safe control procedures. Thirty districts applied for and received demonstration control sets. In each case a municipal or provincial representative was trained in the use of control material.

Coyote Control

During 1958 the following approved poisons were supplied free of charge for coyote control in the settled areas of the province:

(a) Cyanide—in the form of "coyote getters".

(b) Strychnine—as special pellets, each containing 2 grains of strychnine.

(c) Sodium Fluoroacetate—known as "compound 1080" and used in preparing meat baits.

With the inclusion of the County of Warner No. 5 in 1958, all settled areas of the province have requested and been approved as districts which can use coyote getters and strychnine pellets. A total of 87 districts, including Counties, Municipal Districts, Special Areas and one Indian Reserve, have been approved under the Coyote Control Policy. These received supplies for the setting out of coyote getters and strychnine pellets.

Since 1951, when the Department undertook the control of coyotes in the settled areas, a total of 41,190 coyote getters, 111,470 cyanide cartridges and 762,500 strychnine pellets have been distributed by provincial and municipal pest control officers. The demand for materials has decreased as the use of 1080 baits increased. However, coyote getters, scent, strychnine and allied materials, posters and various necessary forms were supplied to the field force, almost daily. The trend to use strychnine over coyote getters, as a simpler means of control, continued. The following table shows the amounts of major materials supplied since 1951 and the estimated coyotes killed by all materials distributed (including 1080 baits).

	Coyote Getters	Cyanide Cartridges	Scent (2 oz. jars)	Strychnine (Pellets)	Estimated Coyotes Killed
1951	5,560	11,510	1,050	....	8,400
1952	4,530	12,460	1,350	....	12,300
1953	18,800	46,030	8,120	116,000	56,300
1954	5,410	20,110	7,370	192,000	62,100
1955	4,080	10,990	6,340	195,500	57,200
1956	1,580	5,000	3,330	124,500	50,500
1957	830	4,140	2,310	76,000	41,000
1958	400	1,230	1,340	58,500	34,900
Totals	41,190	111,470	31,210	762,500	322,700

Coyote control was continued in areas outskirting settlement. Ten provincial Pest Control Officers were employed during the winter in Improvement Districts. During the summer period 17 provincial officers worked on coyote control along with other duties. Coyote control continued at a high level in most regions, as indicated by the amount of materials used and estimated kills.

The poison "1080" was restricted to sparsely settled regions and to open areas in more heavily populated districts, where poisoning could be carried out effectively but with maximum safety to the public. As requested by Municipalities and approved by the Minister, the following 1080 baits were prepared and set during the winter season:

District	No. Baits Set	District	No. Baits Set
M.D. of Athabasca No. 103	14	M.D. of Willow Creek No. 26	16
M.D. of Bonnyville No. 87	8	County of Beaver No. 9	Pending
M.D. of Cardston No. 6	37	County of Forty Mile No. 8	27
M.D. of Barrhead No. 106	12	County of Newell No. 4	15
M.D. of Flagstaff No. 62	Pending	County of Ponoka No. 3	21
M.D. of Foothills No. 31	22	County of Stettler No. 6	26
M.D. of Kneehill No. 48	15	County of Thorhild No. 7	6
M.D. of Lacombe No. 64	25	County of Wetaskiwin No. 10	23
M.D. of Lac Ste Anne No. 93	9	I.D. No. 11	18
M.D. of Lethbridge No. 25	8	I.D. No. 22	37
M.D. of Mountain View No. 49	14	I.D.'s 27, 46 & 50	19
M.D. of Paintearth No. 53	10	I.D.'s 58, 65 & 68	74
M.D. of Pincher Creek No. 9	11	I.D.'s 77, 78 & 95	28
M.D. of Red Deer No. 55	26	I.D.'s 85 & 101	6
M.D. of Rocky View No. 44	33	I.D. No. 102	15
M.D. of Strathcona No. 83	3	I.D. No. 107	14
M.D. of Starland No. 47	5	I.D. No. 109	11
M.D. of Smoky River No. 130	8	I.D. No. 134	3
M.D. of Stony Plain No. 84	16	I.D.'s 125 & 126	5
M.D. of St. Paul No. 86	26	Special Area No. 2	20
M.D. of Taber No. 14	9	Special Area No. 3	13
M.D. of Vermilion River No. 71	9		
M.D. of Wainwright No. 61	14	Total Baits Set	749
M.D. of Westlock No. 92	1		
M.D. of Wheatland No. 40	17		

A total of 68 districts, including Counties, Municipal Districts, Special Areas, Improvement Districts, Indian Reserves, etc. are now approved as areas where 1080 may be set. Some areas have experienced very good control and thus discontinued baiting for one or more seasons. The following table of the 1080 Program shows a comparison of sets, districts using and approved areas, dating back to 1951 when 1080 was first tested in the province:

	1951	1952	1953	1954	1955	1956	1957	1958
No. of Sets	50	143	184	387	387	753	778	749
No. of Districts Using	2	11	13	19	28	40	47	50
No. of Districts Approved	2	12	15	19	30	43	57	68

The table shows a definite increase in the use of 1080 poison baits until 1957, with a levelling off during 1958. The Supervisor, his Assistant and 4 Fieldmen, working out of Edmonton and Leth bridge, serviced 50 districts using 749 baits in 1958.

RODENT CONTROL

Pocket Gopher

Field surveys and farmer complaints indicated a considerable increase in pocket gophers, especially in the black and transition soil zones. Their numbers had spread far up the foothills to the south and the west. Alfalfa fields bear the brunt of damage but pastures, gardens and lawns are also affected.

Control demonstrations based on earlier trials were offered to many farmers in 4 municipalities in the Edmonton area, as well as a few to ranchers in south-western Alberta. A total of 832 poison bait sets and 56 baited trap sets were used. An effective and fairly simple method of control has been established. The information derived from this work has been made available to farmers and other persons interested in pocket gopher control.

Columbian Ground Squirrel

Reports indicated that considerable damage was being inflicted on hay and grain fields in south-western foothills areas, by Columbian Ground Squirrels. A survey was undertaken to determine the extent of damage and, also to study some of the habits of this rodent. Poisoning trials were set out on fields in the Gorge Creek, Willow Creek and Pincher Creek areas, using grain as the conveyer and strychnine as the poison. Farmers and ranchers were interested and anxious to co-operate in working out safe and efficient controls on this Ground Squirrel.

Norway Rats

The Saskatchewan border infestations have been mainly confined to Ranges 1 and 2, with a very few colonies in Range 3. The situation has changed very little from 1957, except for a northerly movement affecting an area between Onion Lake and Cold Lake. These infestations have mostly been eradicated. While the year end picture indicates rat locations stretching from Township 13 in the south to Township 63 near Cold Lake, no general advance westward was experienced in 1958.

Residents have continued to show interest and co-operation as indicated by an increasing number of premises cleaned up, rat proofed and of rat food and harbourage removed. In a few cases where action was not taken, 5 Notices to Control were issued to eradicate infestations. No court action was necessary.

The following table shows the rat situation as at December 31, 1958, with 1956-57 results for comparison purposes.

	Year	Verm. R. M.D. 71	W'right M.D. 61	Provost M.D. 52	Sp. Areas No. 2 & No. 3	Acadia M.D. 34	I.D. No. 11	I.D.'s 85 & 101	Totals
Farms Checked	1956	606	427	372	838	162	368	....	2,773
	1957	891	373	415	522	161	358	....	2,770
	1958	1,441	391	550	563	174	390	265	3,774
Farms Infested	1956	20	2	13	20	20	14	....	89
	1957	7	2	6	26	8	17	....	66
	1958	12	0	3	11	5	11	10	52
Farms Infested but Exterminated	1956	135	36	76	41	55	60	....	403
	1957	130	56	77	74	33	106	....	476
	1958	163	30	76	97	37	148	80	585
Farm Exterminated but Re-infested	1956	1	6	11	6	13	2	....	39
	1957	7	3	6	0	4	7	....	27
	1958	1	0	3	0	1	8	10	23

The increased intensity of rat pressure in the south and the north is reflected in the high incidence of farms infested but exterminated as compared to 1957 figures. However, of the 637 total premises infested during the year, all but 52 showed complete extermination. Remaining infestations have been reduced to small populations, less than 10 rats in each. Re-infestations were very light, owing mainly to the fact that more farmers are maintaining permanent, attractive, bait stations as a precaution against migrating rats. The rat movement was heaviest during the early summer. Fall migrations were in the main held back through increased activity in rat suppression by residents east of the border.

The main control measures have been the use of Warfarin and Pival poison baits, as well as carbon monoxide gassing. During 1958 the following poisons were supplied free of charge: Warfarin concentrate—3½ pounds, Ready-mixed Warfarin bait—20,970 pounds, Water Soluble Warfarin and Pival—10,500 packages (making 10,500 quarts bait). New bait formulations have proven very effective and this year rats have taken the bait more readily and in greater quantity than ever before. A conservative estimate, based on average rat infestations and amounts of poison used, indicates that over 58,000 rats were killed during 1958.

Approximately 250 pest control officers have been appointed by rural municipalities, cities, towns and villages. These men handle local rat reports. Their services are invaluable to the campaign. Infestations at Lodgepole in the Pembina Oil Field, which were reported in the fall of 1957, were completely eradicated by March of this year. As long as oil equipment and housing continues to move into the province, the danger of isolated infestations is apparent. A well informed public is our greatest ally. In addition, two full-time Provincial Pest Control Officers supervised the border area, working closely with Municipal Pest Control Officers and farmers. The Department grant of 50% toward the salaries and expenses of Municipal Pest Control Officers in the M.D. of Vermilion River No. 71, M.D. of Wainwright No. 61, M.D. of Provost No. 52, Special Areas 2 and 3, M.D. of Acadia No. 34 and I.D. No. 11 was continued. These men made farm to farm checks, demonstrating and applying preventive and control measures.

The animals commonly referred to as Mura continued to be safely housed in escape-proof buildings at Scapa. Owners have complied with our directions regarding the safe handling of these animals at all times.

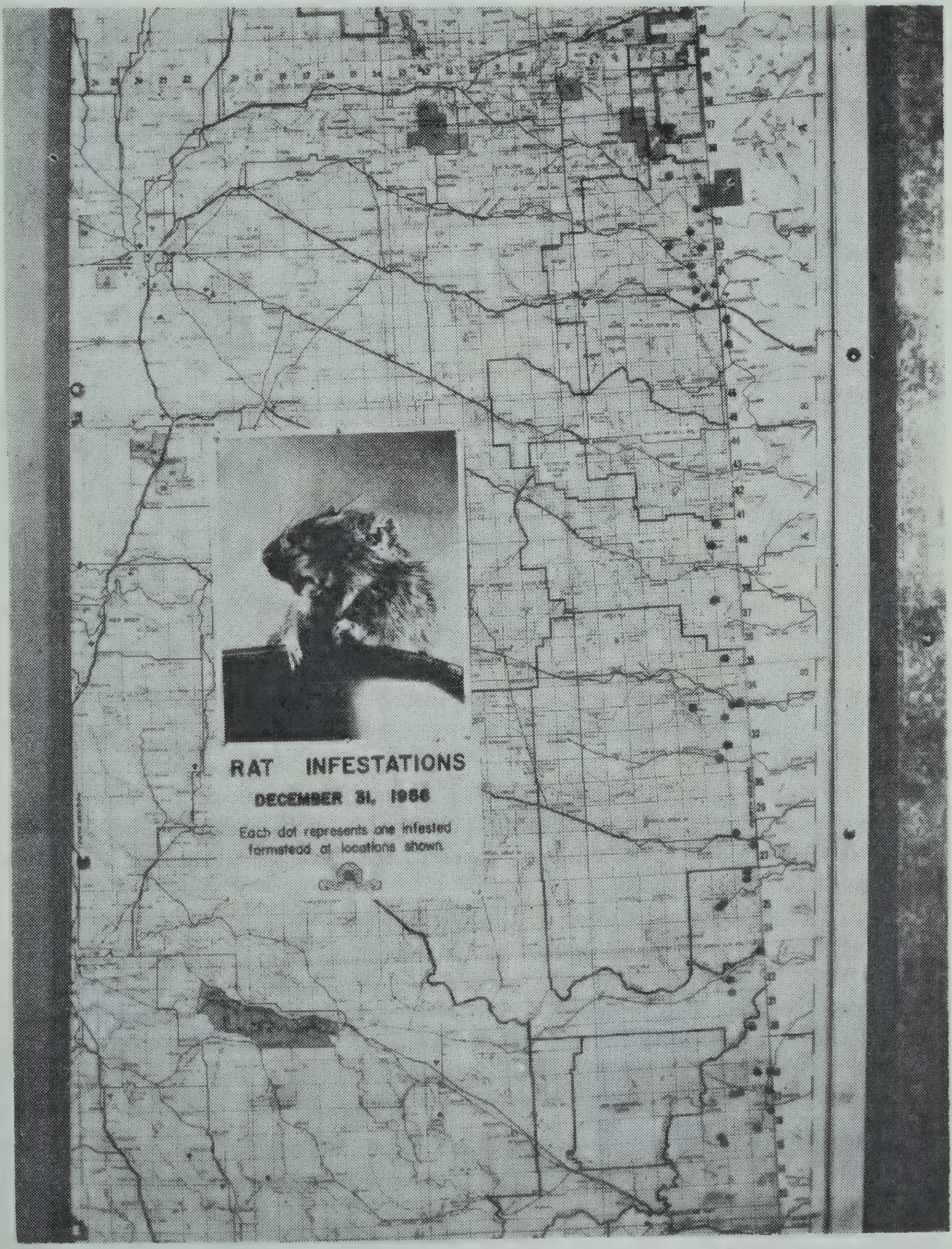
The annual meeting of provincial and municipal officials was held at Coronation to review the rat situation and to plan the future control campaign. Twelve public meetings were organized with rat control as the main topic discussed. Six hundred and thirty people attended these meetings. In addition, some 10 displays and demonstrations were conducted during summer fairs and at other public gatherings. Three rat films, numerous colored slides, live and mounted specimens, and control materials were displayed at various meetings. Pest control officers were supplied with rat control kits, mounted rat specimens, poster and two printed bulletins for public distribution. Thirty-three rat reports were investigated at points other than along the border and at Lodgepole.

Pest Control Advisory Committee

The second annual meeting of this committee was held in December with representation from the Canada Department of Agriculture, University of Alberta and the Field Crops Branch. The 1957 recommendation of the Committee was followed through in the establishment of an Insect Identification Service at the University of Alberta. During 1958, this centre identified 280 insect specimens by mail and handled 320 telephone enquiries. The 1958 meeting recommended that this service be extended to identify plant diseases and other pests.

Extension and Miscellaneous

The Supervisor and his Assistant spoke at 30 meetings, short courses and field days. Three Agricultural Service Board and Council meetings were attended on various pest control matters. Judging was done at 10 fairs and achievement days. Two weeks were spent on Bacterial Ringrot Survey. Displays and demonstrations on control of various pests were held at 18 fairs or meetings. Fifteen articles were prepared for Farm Notes and 4 radio interviews made. Twenty-six conferences and committee meetings were attended. There were 605 field investigations made on various problems.


RAT INFESTATIONS
DECEMBER 31, 1958
Each dot represents one infested farmstead at locations shown.

Rat Infestations Map

HORTICULTURE SERVICES

In 1958 Alberta farmers planted 1,753,501 trees. The total was made up of 1,377,570 from Provincial Nurseries and 375,931 from Federal Stations. This is a decrease over 1957 of 58,322. The number of farmers receiving trees was 2,293; 2,093 obtaining their trees from Provincial Nurseries. This was an increase of 5 from 1957.

The two Department mechanical tree planters were used again for demonstration purposes. Because many Alberta municipalities now have their own planters the demand for the Government ones has decreased. The majority of trees were planted in Farmstead shelterbelts although each year more Alberta farmers were realizing the value of trees to assist in controlling soil erosion and protecting and beautifying roads and are planting trees and shrubs for these purposes.

1958 was not a good year for starting trees. The spring and early summer were warm and moisture was a limiting factor over much of the Province. The weather over most of the Province remained hot and dry through the summer and where the farmer neglected to water the newly planted trees, losses were experienced. To overcome losses from the use of hardwood cuttings of poplar and willow, the Nursery rooted and shipped 100,840 of these varieties. This program is being enlarged each year.

Tree Nursery Station—Edmonton

1,176,470 trees and 186,525 hardwood cuttings of poplar and willow were supplied to 1,910 farmers from the Oliver Nursery. This was an increase over 1957 of 57,672 trees and 260 in the number of applicants receiving trees from this Nursery.

An inventory of trees on the Nursery at the end of the year included 3,345,000 evergreens and 2,605,000 deciduous trees. In addition to these 5,950,000 trees, the Nursery staff had made 220,000 hardwood cuttings of willow and poplar.

The Nursery employs a staff of 4 permanent men. In the summer 4 extra men are hired plus 5 patients from the Oliver Hospital. 24 extra men and women were hired at shipping and planting time.

Two new short shelterbelts were established of Villosa lilac and Arctic willow. They will serve the dual purpose of providing shelter and within a short time seed and propagating material for distribution to farmers.

6,000 evergreens were supplied to the Parks Department, City of Edmonton, to be distributed to Grade one pupils in the Edmonton Public and Separate Schools. 5,000 evergreens were supplied to the Eastern Rockies Forest Conservation Board for experimental purposes. 1,356,410 trees have been lifted and heeled in for shipping in the spring of 1959. 600,000 2-0 and 3-0 seedlings were transplanted and 100,840 poplar and willow cuttings rooted.

Seed of the following varieties was collected, extracted and cleaned. White and Colorado spruce, Douglas fir, Hansen hedge rose, Burr oak, Villosa lilac, American elm, Green and Mountain ash and Manitoba maple. This seed has a value of more than $3,500.00. 240 pounds of Douglas fir seed were extracted from 185 sacks of Douglas fir cones for the Eastern Rockies Forest Conservation Board.

The following new equipment was added to the Nursery, an electric welder and power saw.

The staff hauled 250 yards of peat moss and 200 yards of manure from the Edmonton Stockyards to the Nursery. The manure was used for soil improvement. Two trips were made to Brooks to move trees to Edmonton. 100 yards of gravel were hauled and spread on the Nursery roads. 300 old seed beds were lifted, repaired and painted.

Chemicals were used to spray 50 acres twice to control weeds in the transplant beds and this reduced the amount of hand weeding to a minimum. The weeds in the rest of the Nursery were controlled by intensive cultivation.

An outbreak of sawfly and red spider was controlled by spraying with Malathion.

Other Activities

The Supervisor of Horticulture addressed 16 public meetings. In addition he spent some time in 17 District Agriculturists' areas assisting with tree planting, farmstead planning, advising on Demonstration Orchards, and other horticultural matters. He acted as judge at 6 Horticultural Bench Shows and assisted at 7 4-H Garden, Grain and Potato Achievement Days. He attended 2 meetings of the Alberta Horticultural Association and attended 7 Executive Meetings and 9 monthly meetings of the Edmonton and District Planning Commission. He is a member of the Whitemud Park Committee and attended 4 meetings. Three radio talks were given on the Department's program "Call of the Land" and one appearance on the Television program "Country Calendar" produced by the C.B.C. 17 press releases on topical subjects were published in the Department's weekly release "Farm Notes". 62 trips were made to the Oliver Tree Nursery and three visits to Southern Alberta to attend meetings concerning Special Crops for irrigated areas. Several days were spent at the University proofreading several new Horticultural publications.

Nursery Inspection

In co-operation with personnel of the Canada Department of Agriculture Science Service, the Supervisor of Horticulture inspected 10 Commercial Nurseries. The inspection is carried out each year to check the Nurseries for diseases and insects. Particular attention is paid to imported stock. As a result of this inspection the Department in co-operation with the other two Prairie Provinces, publishes a list of Prairie Nurseries.

Horticultural Advisory Board

This Board, appointed by the Minister of Agriculture, is composed of representatives of the Field Crops Branch, University of Alberta, Experimental Farms Service, the Science Service of the Canada Department of Agriculture and the Canadian Nurserymen's Association. The Board meets once a year and is charged with the responsibility of recommending to the Minister regarding all matters pertaining to horticulture.

Alberta Horticultural Association

The Association held its 6th Annual meeting at Olds in April. The fourth Provincial Show was held in Calgary on August 22nd and 23rd, in conjunction with the Annual Bench Show of the

Calgary Horticultural Society. The Executive meet at Lacombe and Calgary. Eleven local societies joined the Provincial organization in 1958.

Seed Potato Production

The following table is an 8-year summary relative to seed production in Alberta.

	1951	1952	1953	1954	1955	1956	1957	1958
No. of Growers	114	81	86	70	67	72	65	61
No. of Fields Insp.	212	177	200	223	228	220	222	203
Acres Insp. for Cert.	975	702	942	1,022	1,004	1,328	1,577	1,615
No. of Fields rec. Cert.	183	163	168	198	214	186	188	172
Acres passed for Cert.	....	578	844	905	965	1,129	1,272	1,300

Tuber Indexing of Foundation Seed

The service of indexing foundation potatoes was continued jointly by the Field Crops Branch, the Brooks Horticultural Station, the University of Alberta and the Canada Department of Agriculture. 1,521 tubers, an increase of 406 from the previous year were grown in the greenhouse at the Brooks Horticultural Station and disease readings taken early in April by a Plant Pathologist. 62.9% of the tubers qualified as suitable for production of foundation seed. 18% showed very slight mosaic, 6.0% showed mild mosaic, 0.8% showed severe mosaic, 0.1% showed Rhizoctonia, 11.5% were weak and 0.35% were missing.

Potato Production Improvement Committee

This Committee, appointed by the Horticultural Advisory Board, is composed of potato growers from all Commercial producing areas of the Province and Government personnel interested in Potato production. It has the responsibility of assisting and advising the potato industry in the Province and acting in an advisory capacity to the Horticultural Advisory Board.

Two meetings were held in 1958 the Annual Meeting in Calgary in March and a second in conjunction with a Field Day at Brooks in late August.

REPORT OF THE HORTICULTURAL STATION BROOKS

Administration

The long open season resulted in an increase of labour hours of 20% over 1957, bringing the total to 33,419. This time was divided between the station programs as follows:

Type of Work	1956	1957	1958
Propagation of trees and shrubs	30.0%	26.0%	25.5%
Assembling and Distribution of Trees	3.4%	1.4%	0.7%
Vegetables and Potatoes	13.0%	21.9%	16.9%
Orchards	7.0%	6.5%	15.0%
Greenhouses	6.0%	7.3%	8.6%
Ornamentals	0.1%	0.5%	1.5%
Other Crops	14.0%	13.2%	12.0%
Maintenance of Buildings and Machinery	21.0%	17.5%	12.0%
Weather	3.5%	1.1%	1.0%
Office, Landscaping, Preserving, Laboratory	2.0%	4.6%	6.8%

There has been an increase in labour requirements in each section but the major demands have been in orchard maintenance. The fact that casual horticultural labour is not entitled to unemployment insurance continued to aggravate the help situation, workers showing preference for other employment where lay-off periods are protected by benefits.

We regret to have to report the death on April 6th, of D. A. Shaw, B.Sc., M.Sc., who had been Assistant Superintendent since 1954. Thos. Kilduff, B.Sc., M.Sc., has been appointed to this vacancy and will carry on work, primarily, in the field of vegetable crops.

M. J. Daley, general foreman, due to health reasons has been unable to carry the responsibilities of his work. Mr. M. E. Borkent has taken over as acting foreman.

Retirement of Emco Witteveen as caretaker occurred on July 20th. An undergraduate, Mr. John Van Loon, has been working with root stocks and Mr. Steve Molnar, a graduate in agriculture from Hungary, has taken over Mr. Borkent's work in the potato selection program.

Capital improvement included construction of drainage ditches and placement of permanent gates and structures. Three areas were leveled and prepared for soil improvement crops. This was necessary following stripping operations connected with the reservoir construction. Temporary roof repairs were made to all buildings. Redecorating in residence number three was completed. The soil house was moved to a new location to eliminate an unsightly area adjacent to the main office.

Staff of the Irrigation Survey Division used the station as headquarters. Assistance was given in landscaping and materials were supplied through Mr. M. J. Lloyd, Department of Water Resources, Grassy Lake, for the planting of five newly developed headquarters homes.

Extension

Station staff spoke at forty-two Extension meetings, judged five Horticultural Shows and made fourteen specialized calls. Landscape plans were prepared for sixteen farm homes. The Station was host to a number of visiting groups including: the Saskatchewan River Development Association, the Calgary Garden Club, the Cayley F.U.A. and F.U.W.A., the Southern Alberta District Agriculturists, the Alberta Potato Improvement Committee and the Medicine Hat Horticultural Society and Photographic Club. Some 1,052 personal calls were made at the Station for discussion and advice on horticultural problems.

Staff personnel participated in a farmstead planning program in the Hays Irrigation District. A ten week Landscaping Course was presented in co-operation with the University of Alberta in Medicine Hat. Displays, featuring fruit, vegetable and flowers, were staged at the fourth Annual Provincial Horticultural Show in Calgary and at the local fair in Vauxhall.

Climate

The length of the growing season was 162 days. The last killing frost being April 29th and the first killing one October 9th.

The winter of 1957-58 was open and mild, resulting in very little winter damage or killing in the tree material. There was practically no snow cover, except during February and March, when an average 3.5 inches was present. The extreme low temperature was –33°F. in February and the extreme high 93°F. in August.

Moisture supply during the growing season was more than last year but still below normal. September was wet with a total rainfall of 1.97 inches. A summary of Meteorological conditions appear in the following table.

Month	Max.	Min.	Mean Temps. Max.	Mean Temps. Min.	Mean Temp.	Precip. in Inches	Hours of Sunshine
January	53	– 8	34.3	14.5	24.4	0.40	80.6
February	46	–33	17.9	1.5	9.7	1.18	72.8
March	50	–20	27.5	10.3	18.9	0.78	94.0
April	72	17	53.8	30.4	42.1	0.45	189.2
May	90	32	73.7	42.3	58.0	0.87	335.2
June	88	39	71.1	47.0	59.4	1.71	285.2
July	90	41	76.7	50.3	63.5	1.82	322.8
August	93	43	81.0	51.5	66.3	0.64	327.0
September	86	29	66.5	41.2	53.9	1.97	208.8
October	80	16	60.9	28.9	44.9	0.03	199.8
November	64	–22	36.3	14.0	25.2	0.86	105.2
December	48	–16	27.0	8.4	18.2	0.55	77.5

Propagation and Distribution of Trees and Shrubs

Extension of the seed frames by 96 feet and the increased availability of home grown nursery stock seed has greatly facilitated the propagation program. Seed for most varieties is now harvested on the Station, giving adapted stock of known hardiness and reducing to a small quantity the seed required from outside sources. Some further success was achieved in the germination of seeds previously found hard to start.

Seeding was started in the frames on May 5 and completed May 14. A total of 541 pounds of seed was used, half of this being planted directly into field nursery rows. On account of the dry spring sprinkler irrigation was begun May 12 and continued as needed until early November. 18,600 rooted poplar and 31,700 rooted willows were shipped to Edmonton.

A good harvest of seed was collected from the Manchurian Apricot seedlings on the East Farm and Strathmore sub-station, which began to ripen July 18th. A number of samples of this seed were supplied on request to other Prairie Provinces.

The budding program on fruit trees was completed between August 4th and 20th. There were 2,850 requests from outside the Province for budwood. These were supplied. The greatest demand was for the Jubilee Rosybloom Crab. Seventeen requests for scion wood of fruit trees and lilac were also filled.

Weather conditions in the fall of 1957 prevented the digging of trees and shrubs for 1958 distribution. However, a start was made on April 21st, and packing and shipping of this material followed immediately, and continued until May 15th.

Requests for "mixed bundles" increased by 54% over last year; 235 for the "tall growing" and 252 for the "low growing" bundles. These were shipped. Lots of seven specimens each were supplied to 145 4-H Girls Club members. Fruit trees numbering 1,871 were shipped to 192 applicants. 26 were requested for farm orchards, eight for new Demonstration Orchards and eleven received additional trees for already established Demonstration Orchards. The 830 requests for various lots brought the over-all total to 1,167 applicants who were supplied with 143,470 plants.

Tree Fruits and Small Fruits

Orchards fruited for the first time since the Station was moved to its present location. Plums and cherries in the seedling blocks bore abundantly, but the apples rather sparsely. This made possible roguing for fruit characteristics for the first time. All seedlings bearing poor fruit, small, hard, bitter, late ripening or of wild type or showing disease, chlorosis or lack of hardiness, were removed. The Manchurian plums, **Prunus salicina,** were superior to the native plum, **Prunus nigra.** Several plum trees showed real promise and two large fruited apple seedlings will be watched.

This year the seedling orchard was increased by adding 6,048 apple seedlings and 1,433 plum seedlings, all from controlled crosses, through the Prairie Fruit Breeding Co-operative Program. This brings to 27,374 the total number of seedlings planted to date on the Station in this project. Data were recorded on the 1953 seedlings for the third year, the 1954 seedlings for the second year, and the 1955-56 for the first time.

In other projects 55 varieties of named fruit trees and sixteen selections of currants, gooseberries and raspberries were received and planted.

Heavy fruiting of the Manchurian apricot orchards on the Station grounds and at Strathmore enabled us to take data on size, ripening, quality, and appeal of the raw fruit, and to determine the quality of the fruit for home canning. All trees at Brooks were assessed and thirteen trees at Strathmore, outstanding for quality of the raw fruit, were marked for further study. Seed of all promising material was saved for further growing and selection.

Many of the three and four-year old apple trees, which showed internal injury following the severe 1956-57 winter, were completely dead in the spring. This decimated the Cultural Trial Orchard to such an extent that a two-year delay, until replacements take hold, will ensue before valid comparisons of cultural treatments can be made. The Varietal Trials orchard was also affected by the losses. Data were recorded on the remaining trees, only a few of which have reached the fruiting stage. The Demonstration Orchard, located on a more favorable site, showed good vigor and fruited well.

Results from the rodent control program, started in the fall of 1957 were very encouraging. No major damage occurred where the treatments, described in last year's report, were applied. It is felt, however, that a winter with normal snow cover will be needed before reliable readings of damage can be made. These tests are being repeated.

Raspberry varieties survived almost 100% and fruited heavily. Of the fifteen varieties in replicated trials, Chief, Honeyking, Rideau, Gatineau and Madawaska were outstanding in yield. Nineteen promising raspberry selections were made mainly on the basis of fruiting characteristics. In a greenhouse project during the winter of 1957-58 seed was obtained from eighteen different crosses involving the six varieties, Chief, Honeyking, Madawaska, Washington, Viking and Lloyd George.

Currant and gooseberry varieties have just reached the fruiting stage and yield tests are planned for next season.

The strawberry varieties plot was unfortunately planted in a poor location and failed to become established.

Propagation and transplanting of the McDonald rhubarb from plants showing resistance (or escape) from the Red Leaf disease proved very encouraging. Results, however, were not conclusive, and the experiment will be continued. Most of the rhubarb seedlings infected with Red Leaf in 1957 came through the winter in apparently good condition, but succumbed to the disease early this season.

Cooking, canned and freezer samples were taken of the different raspberry and rhubarb varieties.

Vegetable

Foundation vegetable seed production was undertaken with five varieties. In sweet corn Altagold and Burbank's Bantam yielded 150 lbs. and 380 lbs. respectively. Two and one-half pounds of seedstock was obtained from the Red-cord Chantenay carrot and a small quantity of selected roots has been stored for further seed production. The plantings of squash (Des Moines) and cucumber (National Pickling) failed in seed production.

Tomato Breeding

Final plantings were made from seed obtained in the program begun in 1948. Over 10,000 plants from 213 selections were grown. From these sixty-one selections were made.

Cabbage Breeding

From the combinations made between the inbred strains of Evergreen cabbage six lines have been selected, two of which appear to have commercial possibilities. The six lines were grown in increase blocks for seed production. Also, this year, reciprocal crosses were made between these lines, and the thirty lots of seed harvested separately.

Vegetable Trials

Three hundred and thirty-five varieties of forty-one kinds of vegetables were grown in thirty foot rows. Yield and other data were recorded. This extensive trial is carried on to appraise the worth and regional adaptability of the new varieties appearing annually, by checking their performance against that of known and presently recommended varieties, and testing their quality for freezing and household use. The accumulated data serves as the basis of our recommendations in the biennial revision of the "Alberta Horticultural Guide".

It is interesting to note that the Cuyano tomato has been the highest yielder among thirty in the last two years. Nine different tomato varieties were grown in a randomized Latin square for the Prairie Vegetable Trials. A limited Fertilizer test showed negative results, but it is planned to repeat the trial.

Surplus vegetables, as in former years, were donated to hospitals in Brooks and Bassano. Approximately twenty tons of surplus tomatoes and cabbage were made available to hailed-out farmers in nearby districts.

Potatoes

Thirteen varieties were grown in the variety trials and harvested in good condition. In order, the three highest producers were: N.D. 2906-1R, Keswick and Cherokee.

Thirteen varieties were also grown as a regional plot of the National Potato Trials. For the first time this year we took part in the Adaptation Trials, which are directed toward testing of new varieties and seedling for area suitability. Data from both tests have been forwarded to Ottawa.

Potato Breeding Program

7,287 seedlings, sown and transplanted in the greenhouse in August, were harvested late in December.

7,800—1957 seedlings were field planted this spring and ninety-one selections made for further testing. Seedling selections from 1953, 1954, 1955 and 1956 were also grown. Re-selection has left seventeen 1954, twenty-eight 1955 and fifteen 1956 seedlings to be grown alongside the ninety-one of 1957. We have recommended for inclusion in next year's Adaptation Trials five 1954 and ten 1955 seedling selections.

Tuber Indexing Program

During the winter 1,523 tubers submitted by nine growers were indexed in the greenhouse. Procedure was the same as followed in previous years, except that the use of indicator plants to test for Virus X was discontinued. 62.9% were returned to the growers as disease free, compared with 86.5% returned 1957.

Approximately three acres of Netted Gem potatoes, grown for seedstock mainteance, passed inspection as Foundation seed and were harvested in good condition.

About one-half acre of selected Netted Gems were also grown. These came from two selections for uniform tuber formation, made in our 1956 tuber indexing program. This year's crop was definitely more uniform than our standard seedstock.

Ornamentals

In the ornamental plot the number of empty spaces due to winter killing and alkaline soil conditions made extensive replanting necessary. A large shipment of shrubs from Morden Experimental Station, which suffered some injury in transit, was planted. It comprised collections of Berberis, Caragana, Cornus, Cotoneaster, Lonicera, Euonymus, Philadelphus, Rosa, Prunus, Spirea, Syringa, Viburnum, Salix (Willows) and singles of many other species. From Lacombe Nursery a collection of Lilacs and some Potentilla varieties were added to the plot. Hot weather and sustained strong winds hampered establishment of the young plants. In August a cover crop of rye was sown between the rows of shrubs.

Perennials came through the winter well, with the exception of a few varieties of Gaillardia and Calliopsis. Planted last year, Pyrethrum gave excellent bloom, Hardy Chrysanthemums, blooming till frost, were outstandingly colorful. Foundation plants have been stored in the cellar to assure stock for cuttings next year.

All Gladiolus varieties reached full bloom in the long favorable season. Very little disease was evident and corn reproduction was good.

A flower border of perennials and annuals, started this year on the south side of the picnic area, has added color to the approach vista. To the spring plantings of groups of Chrysanthemums, Lythrum and Veroncia, were added, by replacing annuals in the fall, Delphinium, Achillia, Lychnis, Heliopsis and some ornamental shrubs. Specimens of Colorado Spruce, Pinus Sylvestris Cutleaf Birch, Poplar varieties, Aescullus arguta and Fraxinus manchuria were also started. A start was made in plans to landscape the entrance gate by planting of trees in the area.

Processing

A total of 165 varieties were processed in the laboratory for organoleptic tests with the emphasis being on beans, cauliflower, carrots, sweet corn and peas.

In processing the four varieties of rhubarb, 24 rhubarb seedlings and 15 varieties of raspberries, some of which were done with plain syrup and canned, and some were processed for freezer testing. Apricot seedlings were checked for processed flavor.

The tests panel, made up of station personnel, checked 184 varieties for suitability for freezing. Those having high average scores were included in the summary list of Vegetable Varieties Freezer tested, which has been made available to the District Home Economics Service. A revised list of vegetable varieties suitable for freezing has been prepared.

Sugar substitutes added as a syrup to fruits for freezing were not considered satisfactory. The sugar syrup did not give as good a product as dry sugar. Substitute syrups left a lingering off-flavor that was considered objectionable by the panel.

Special Crops

Vegetable field crops, small fruits and other special crops for irrigated areas continued to receive attention from the Lethbridge office.

Early in the year some time was spent in facilitating crop price negotiations between growers and processors after implementing the plebiscite which successfully set up the Vegetable Marketing Board. The results of this plebiscite are tabulated below:

ALBERTA COMMERCIAL CANNING AND FREEZING VEGETABLE CROPS MARKETING PLAN PLEBISCITE

Poll	Eligible Voters	Ayes	Nayes	Abstained	Spoiled
Welling	44	37	6	1	....
Taber	270	184	33	52	1
Coaldale	166	109	12	45	....
TOTAL	480	330	51	98	1

Percentage Ayes	68.75	
Percentage Nayes	10.62	
Percentage Abstained	20.42	
Percentage Spoiled	.21	
		100%
Percentage of Eligible Voters that Voted		79.58%

With the establishment of the Board the role of active observer in the canning industry, carried on for the past several years, was discontinued but contact was maintained with both growers and processors. Assistance was given when required in gathering data for the staff—Farm Cost Studies on Speciality Crops. In consultation with the Dominion Bureau of Statistics an improved form for gathering data on vegetable crops was developed. This was put into use and found helpful.

Promotion work from this office in 1956 and 1957, relating to the economic possibilities in the growing of vegetable crops for the "fresh" trade dealt, in the main, with "what to grow" and "how to grow it", along with some information of the size and value of the potential market. Widespread interest was developed, but little increase in acreage of these crops has been noted. The "bottleneck" is lack of marketing "know-how" and this has become abundantly evident. Several farmers, who have ventured into production of onions, tomatoes, or dry beans, have had marketing disappointments. Others, with some marketing experience, have been highly successful, notably with onions and cauliflower.

Marketing technique was a topic of particular interest at four Short Courses and five farmer group meetings. This same topic was of particular concern at eight technical meetings and at the public hearings of the Irrigation Study Committee in Lethbridge and Brooks.

The three-man pilot committee named to do reconnaisance work and preliminary extension in this Specialty Crops field recommended that re-direction or expansion of efforts was necessary. Consequently the whole matter was reviewed at a meeting of District Agriculturists, technical personnel from the P.F.R.A. and federal and provincial horticulturists at Vauxhall on November 19th. It was agreed, at this meeting, that a wide range of green vegetables could be grown equal or superior in quality to imported produce, but it would be advisable to concentrate first on the marketing of a few kinds. Corn, potatoes, tomatoes, onions and cabbage were suggested for a start. The inefficient and inept handling of sweet corn was cited as a glaring example of a superior home product losing out on the home market to inferior imported produce well marketed. The need for a specialized extension horticulturist was stressed; although it was recognized that there was a great need for an extension specialist in produce marketing. Growers have been supplied with advice on varieties, seeding and growing techniques, but lack information on the most satisfactory and economical weed and pest control methods. They must learn that only a part of any crop is marketable and how to market same. They require information, and possibly need demonstration of equipment and methods used in cooling, storing, grading and packaging. They also need to become familiar with the requirements of the trade and the established business routines followed by produce wholesalers. To formulate and recommend a future policy the meeting named a working committee consisting of the Superintendent, Experimental Farm, Lethbridge, the Manager of the Bow River Irrigation Development and the Provincial Field Crop Commissioner.

A new interest in sunflower and other oil seed crops developed due to the start on construction of a vegetable oil seed processing plant in Lethbridge. More interest was shown in fodder corn, or even sweet corn, as a feed for livestock in silage or other form. Very little information of local application is available on this matter but it seems desirable that on irrigated land, which must to a considerable extent be developed on a livestock economy such an adaptable high-tonnage-per-acre crop be not over looked.

REPORT OF THE APICULTURE BRANCH

Alberta produced the largest honey crop in Canada in 1958. Dominion Government Bureau of Statistics crop estimates indicate the Alberta honey crop at 7,114,000 pounds, an increase of 11% over 1957. This was a result of a higher per colony production rather than an increase in the number of colonies.

The per colony production was 155 pounds in 1958 compared to 132 pounds in 1957. The twelve year average is 110 pounds per colony.

The quality of the 1958 crop was very high, moisture content was low and the color excellent.

Market conditions remained firm though there was a carry-over of approximately 800,000 pounds of the 1957 crop. The maintenance of a firm price was largely due to the trend of commercial beekeepers shipping larger percentages of their crop to commercial packers. The entire carry-over was in the hands of commercial packing firms. This resulted in less tendency to sell at low prices which in previous years had happened when the carry-over was in the hands of the producer.

There appears to be a shift in production to the western provinces while the large markets remain in the provinces of Ontario and Quebec. Some bulk markets have been established with eastern honey packers, but freight rates and prices paid for imported American honey made many shippers hesistant to accept the prices offered. The prices received in Alberta were from 14.5 to 15 cents per pound at the producer's warehouse. The prices quoted for delivery to Toronto or Montreal were about 15 cents to 15.5 cents.

Beekeepers in Alberta are affected by weather conditions in California as well as in Alberta since 97% of the colonies operated here are established from package bees imported from California. 1958 spring weather conditions in California were such that package bee shipments were delayed as much as two weeks. This delay could seriously affect the honey production from these colonies by delaying population build-up. Surveys throughout July indicated that this had occurred. August weather and legume crop conditions were such that an unusually heavy honey flow occurred in August which more than offset the losses of July.

Package Bees

The 1958 price of package bees remained the same as in 1957. Most beekeepers were able to obtain their requirements, but many shipments were delayed. Queen losses and supersedure losses were fairly high in newly installed packages. Approximately 15% of the colonies required new queens. This also was probably due, partially, to poor queen mating weather in California.

Wintering

Only 3% of the colonies were wintered. Of these 33% died over winter. Many of the colonies wintered were not properly prepared for winter, and as a result losses were abnormally high.

Honey Grading and Inspections

	1957	1958
Samples received	35	54
Graded No. 1	35	45
Graded No. 2	......	6
Graded No. 3	......	3
No. of Violations Under Honey Grading Regulations	12	12
No. of Containers Under Violation	198	1,797

Of the 1,797 containers under violation 1,620 were the property of one packer. These were improperly marked containers and below quality honey.

Extension

Eight Bee Disease Schools were organized in the province to acquaint beekeepers with the symptoms, hazards and controls of bee disease. Attendance at these schools was most encouraging. The Supervisor attended and spoke at 15 beekeeper Association meetings as well as the Annual Beekeepers' convention. Four Conferences were attended. The Supervisor of Apiculture was

Head Judge at the Pacific National Exhibition (Honey Division) as well as judging at local fairs and exhibitions.

Disease Control

Control of American Foulbrood continues to be one of the most serious hazards of beekeeping. While the use of drugs and antibiotics (sulfa and terramycin) has been of great benefit to the beekeepers of Alberta, many of the smaller operators and hobbyists fail to recognize the symptoms or seriousness of the disease. Most commercial beekeepers made a commendable effort in controlling disease in their units.

Abandoned and unused bee equipment remained a problem. It was difficult to locate, and often was not used because it was diseased. A considerable amount was located in the past year in winter inspections.

Sixteen inspectors were appointed in 1958.

No. of colonies inspected	9,811
No. of colonies showing AFB	559
Percent colonies inspected	21.4

Statistics

	1957	*1958
No. of colonies	48,200	46,000
No. Beekeepers	1,800	1,500
Average Yield per Colony	134 lbs.	155 lbs.
Total production	6,459,000 lbs.	7,114,000 lbs.
Value of Honey	$1,033,000.	$1,067,000.
Value of Wax and Honey	$1,081,000.	$1,109,000.

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*1958 figures are preliminary estimates.

Canadian Agricultural Stabilization Board Information

August 12, 1958, a stabilization price for honey was declared by the above mentioned Board.

Report of the Live Stock Branch

W. H. T. MEAD, Live Stock Commissioner
W. C. Gordon, Live Stock Supervisor (Cattle)
J. J. Kallal, Live Stock Fieldman (Cattle)
A. J. Charnetski, Live Stock Supervisor (Swine & Sheep)
I. A. Coles, Supervisor of Feeder Associations
S. B. Clarke, Brand Recorder

Highlights of the year were continued heavy demand from the United States for Canadian cattle and calves which resulted in a strong rising market, and sharp increases in the production of hogs which eventually depressed prices to the support price level in November. The number of cattle and calves into Alberta feedlots is believed to be about ten percent less than in the previous year. Feedlot cattle went in later in the season than usual due to the feeders reluctance in the early fall to pay the prices which reached the highest levels since the fall of 1951. Sheep production and marketings showed some increase on a market relative to the previous year. Announcement of Federal deficiency wool payment added some optimism and stability. Purebred live stock of all kinds was in good demand with strong prices.

CATTLE

Cattle came through the 1957-58 winter in very good condition in the southern part of the province and fair to good in the north. Feed shortages and poor pastures in early spring in some areas contributed to weight losses.

Cattle condition was generally good throughout the grazing season in spite of poor pastures in some areas, which were most evident in the east central and north east part of the province.

In most regions, supplies of feed appear sufficient to carry stock through a normal winter except possibly a few areas in the east central and north east part of the province where supplies are only fair.

Cattle entered the winter of 1958-59 in good condition.

Alberta's cattle and calf population was estimated at 2,500,000 at June 1st, 1958.

Stock inspection figures indicate an approximate six percent increase in marketings over 1957.

Feeder and finished cattle prices remained strong throughout the year due largely to exports to the United States.

Returns from pure bred sales in 1958 were up sharply over 1957 prices due to increased strength in the commercial cattle market and the export of bulls to the United States.

Seven hundred and eleven bulls were sold at the 58th annual Calgary Bull Sale for an average of $749.14 as compared to 800 head and an average of $519.68 in 1957. Fernand Belzil, St. Paul, sold the Hereford bull "Blue Hill Royal Mack 10L"—529185—for the top price of $5,000.00 to E. M. Hall, Kamloops, B.C. Dalrene Farms, New Norway, sold the Aberdeen Angus bull "Dalrene Duke

17"—157026—for $2,000.00 to Bill Holtman, Taber. The Shorthorn bull "Rothney Justinian"—368347—bred by A. R. Cross, Midnapore, sold for $3,500.00 to Urice Brothers, Vinton, Iowa, U.S.A.

Purebred breeders sold 2,178 beef bulls through seventeen consignment sales. Sales were held at Calgary, Edmonton, Olds, Grande Prairie, Red Deer, Stettler, Llyodminister, Cereal, Lacombe, Lethbridge (two), High River (two), St. Paul, Camrose, Sangudo and Vermilion.

	No. Sold	Total Value	Av. Price
Hereford	1,556	$956,219.00	$614.54
Aberdeen Angus	242	138,355.00	571.71
Shorthorn	380	174,660.00	459.63

Estimated number of cattle and calves on Alberta farms at June 1st.

Year	No. of Head
1954	2,094,000
1955	2,250,000
1956	2,449,200*
1957	2,600,000
1958	2,500,000

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*2,449,200 is the actual census figure for 1956. Figures for 1954 and 1955 are adjusted estimates on the basis of the 1956 census.

The decrease from 1957 of 100,000 head is accounted for mainly by the heavy export of steers to the U.S.A.

The official reports of the Canada Department of Agriculture show for Alberta the following cattle and marketings and total value for 1954 to 1958 inclusive.

Year	No. of Cattle	Value	No. of Calves	Value
1954	552,296	$ 74,245,151.00	123,732	$ 6,133,395.00
1955	575,570	78,691,930.00	124,949	7,185,817.00
1956	712,975	89,647,975.00	146,259	7,655,870.00
1957	807,858	109,592,731.00	178,583	11,409,125.00
1958	824,103	148,274,139.00	203,642	20,687,416.00

CATTLE AND CALF SHIPMENTS OUT OF THE PROVINCE

	1954	1955	1956	1957	1958
British Columbia	92,560	86,478	85,511	106,308	92,641
Saskatchewan	1,223	1,051	1,201	780	1,316
Manitoba	20,558	19,079	29,241	20,606	16,695
Ontario	69,623	58,776	84,669	56,772	52,838
Quebec	43,301	34,941	37,406	35,131	21,039
Nova Scotia	29		83	45	613
New Brunswick		26	44		
U.S.A.	34,954	12,459	1,123	108,957	200,882
Newfoundland					
Prince Edward Island	40				
	262,288	212,810	239,278	328,599	386,024

THE CATTLE IMPROVEMENT POLICY

This Policy was revised as of January 1st, 1958, and operated in two phases designated as A and B. The A section was a continuation of the Policy as operated before revision, and provided for assistance to farmers who purchased a purebred bull by (a) applying to the Live Stock Branch and vesting in the Branch responsibility for purchasing, or (b) selecting a bull from a breeder subject to approval as to quality and price by a member of the Live Stock Branch.

Policy B was designed for application to consignment sales of bulls sponsored by cattle breeders associations, exhibition associations, agricultural societies or breed clubs. It is based on the principle of the sponsoring organization requesting application of the policy to their sale, and on a culling committee inspecting all bulls prior to the sale with only those approved selling at the sale. A farmer buying at such a sale can make application for the assistance, provided he meets eligibility requirements.

Eligibility for both sections is the same and is based on residence in Alberta. Purebred breeders are not granted assistance, the Policy being restricted to commercial producers. Any one farmer can obtain assistance only twice and there is a two year waiting period between first and second application. Assistance can be obtained twice under either section or once under section A and once under section B.

Assistance provided was ten percent to a maximum of $50.00 with assistance to purebred sire area residents of fifteen percent to a maximum of $75.00.

Policy A

Six hundred and forty-two bulls were placed in 1958. By breeds, there were 396 Herefords, 141 Shorthorn, 67 Angus, 16 Red Poll, 19 Holstein and 3 Ayrshire.

The following table shows the placement of bulls for the past six years:

1953	677
1954	630
1955	558
1956	505
1957	572
1958	642

Policy B

This phase of the Cattle Improvement Policy was requested and applied at seventeen sales in 1958.

Assistance was paid on a total of 1,058 bulls. By breeds, these were 693 Hereford, 232 Shorthorn and 133 Angus.

LIVE STOCK LISTING BUREAU

This Policy provides for placing pure bred breeding stock, male or female, with purebred breeders and others not eligibile under the Cattle Improvement Policy. There is no financial assistance on the purchase price or freight prepayment on such placements. During 1958 only three bulls were placed. This small number could be due to a revision in the Cattle Improvement Policy which renewed eligibility to all farmers, other than purebred breeders, as of January 1st, 1958.

GENERAL

Branch Supervisors visited 510 breeders' premises and appraised approximately 1,450 bulls in connection with Cattle Improvement Policy A. They took part in five meetings and three field days and judged at seventeen 4H achievement days at which there were a total of thirty-one clubs. Cattle Improvement Policy B required attendance at fourteen bull sales as members of selection committees. Sixty-one farm calls were made relative to Royal Winter Fair exhibit selections.

TORONTO ROYAL AGRICULTURAL WINTER FAIR

The 1958 Toronto Royal Agricultural Winter Fair was held November 14th to 22nd. Twenty-two carloads of live stock comprised the exhibit which left Alberta November 4th via Canadian National Railways.

By classes there were 16 draught horses, 7 light horses, 5 carload lots of 12 steers, 5 groups of 5 steers, 25 single steers, 63 beef breeding stock, 36 dairy cattle, 8 dual-purpose cattle, 22 hogs and 80 sheep.

Freight costs were borne seventy-five percent by the Canada Department of Agriculture and twenty-five percent by the Alberta Department. The Alberta Department of Agriculture also paid cost of selection, decking cars, and cost of feed in connection with the shipment.

The following table shows the prizes won by Alberta Exhibitors:

	Horses	Beef Cattle	Market Cattle	Dairy Cattle	Sheep & Wool	Swine	Total
Grand Champion	.....	1	1	1	1	1	5
Reserve Grand Champion	.....	1	1	.....	.....	.....	2
Championships	1	2	5	1	5	1	15
Reserve Championship	.....	1	2	1	5	1	10
1st Prize	2	13	10	5	18	2	50
2nd Prize	4	9	8	6	13	4	44
3rd Prize	3	15	5	7	14	4	48
Other Prizes	14	43	11	13	20	14	115
	24	85	43	34	76	27	289

Outstanding achievements were:

A. R. Cross, Midnapore, Grand Champion steer. Dwaine Jones, Balzac, Reserve Grand Champion steer. McIntyre Ranching Co. Ltd., Lethbridge, Champion grade or cross-bred steer. McIntyre Ranching Co. Ltd., Champion and Reserve Champion car-lots of steers. L. M. Byers, Camrose, Champion pen of five steers, McIntyre Ranching Co. Ltd., Reserve Champion pen of five steers.

C. J. Kallal & Son, Tofield, premier breeder and premier exhibitor of Herefords. J. A. Paul, Okotoks, Junior Champion Hereford bull. Warren Smith, Olds, Reserve Grand Champion Hereford female. A. R. Cross, Midnapore, Grand Champion Shorthorn female.

Pickard & Clark, Carstairs, Grand Champion Holstein cow. Art W. Anderson, Calgary, Reserve Junior Champion Ayrshire bull.

S. & T. Ranching Co., Medicine Hat, Champion Hampshire ewe. C. H. Borwick, Drumheller, Champion Suffolk ram. S. & T. Ranching Co., Medicine Hat, Reserve Champion Suffolk ram. John Wilson, Jr., Innisfail, Champion and Reserve Champion Corriedale with both rams and ewes. John Wilson, Jr., Innisfail, Grand Champion fleece.

W. A. Greenway, Acme, Grand Champion Tamworth sow.

LIVE STOCK FEEDER ASSOCIATIONS

The Feeder Associations Guarantee Act was enacted in 1937. The Act provides a means whereby farmers wishing to fatten cattle or sheep for market, might secure the credit necessary to purchase feeder live stock. The object of the Act is to render assistance to farmers to market their feed grains and forage crops through live stock and also provides an additional market for feeder live stock.

Thirty-two feeder associations operated under The Feeder Associations Guarantee Act during the 1957-58 season. These associations had 844 active members who fed 24,507 cattle and 14,514 lambs, utilizing a credit of $2,351,826.26.

Safisfactory margins were received by most feeders, particularly cattle feeders who purchased feeder cattle previous to the middle of

November, 1957 at which time feeder cattle prices strengthened due to export to the United States.

All loans under the 1957-58 guarantees have been repaid.

Outstanding loans at Banks and Treasury Branches under the 1951-52 guarantees at September 1, 1958 totalled $20,688.78 compared to $29,148.74 at September 1, 1957.

The outstanding 1951-52 loans resulted from market conditions following Foot and Mouth diagnosis in 1952 and necessitated continuation of a policy whereby indebted associations could continue to operate under certain conditions and reduce outstanding accounts by continued feeding operations.

Four new associations operating in the 1957-58 season were, Acme, Big Rock (Okotoks area), Little Bow (High River area), and Meadowbrook (Gleichen area).

FEEDER ASSOCIATION OPERATIONS 1957-58

Association	No. Members	Cattle	Sheep	Amount of Credit
Acme	32	756		$ 76,926.62
Andrew	3	50		3,198.33
Battle River	47	1,304		119,895.26
Big Rock	20	617		66,659.58
Big Valley	20	643		52,684.76
Bowden	18	474		47,073.17
Bow Valley	43	944	2,456	92,904.65
Cardston	17	595		47,592.23
Carstairs	25	923		98,634.05
Central	43	1,285	200	99,836.42
Eagle Hill	22	774	422	69,112.85
East Bow	32	955	2,441	100,085.32
East Central	31	1,106	704	107,706.89
East Olds	24	612		54,483.03
Garden City	13	557		43,885.89
Highwood	19	706		63,060.19
Horse Shoe	31	795		88,297.99
Innisfail	22	832		81,595.87
Knee Hill Valley	32	901		86,441.65
Little Bow	31	1,057	500	95,600.79
Mannville	14	335		21,807.39
Marwayne	41	1,218		91,312.44
Meadowbrook	31	1,003		92,700.53
Okotoks	18	560		63,914.11
Ponoka	38	1,069		94,683.05
Raven	25	666		52,368.87
Raymond-Magrath	16	424	863	54,180.74
South Slope	35	709	3,844	100,772.00
Taber	11	319	300	34,728.17
Tilley-Rolling Hills	44	868	2,782	101,049.25
Vermilion	11	246		22,342.23
Western	35	1,204		126,291.94
	844	24,507	14,514	$2,351,826.26

FEEDER ASSOCIATION OPERATIONS 1938-39 TO 1957-58

Feeding Season	No. of Associations	Members	Cattle	Sheep	Credit
1938-39	6	180	9,239	19,187	$ 368,421.45
1939-40	12	351	16,248	20,287	775,125.21
1940-41	12	451	17,056	37,863	954,489.50
1941-42	15	408	14,945	41,157	1,117,186.08
1942-43	17	437	13,279	31,452	1,092,768.43
1943-44	16	395	11,639	53,768	1,191,641.50
1944-45	15	257	7,968	46,537	834,347.71
1945-46	15	319	9,556	60,845	1,098,291.77
1946-47	13	245	7,057	37,036	729,447.90
1947-48	13	239	8,088	26,241	859,922.29
1948-49	13	212	4,784	13,020	837,732.21
1949-50	10	237	4,978	8,948	622,759.22
1950-51	11	291	5,615	4,381	917,400.70
1951-52	26	642	11,236	6,750	2,328,596.59
1952-53	25	447	9,704	7,068	1,178,834.14
1953-54	23	428	9,538	8,250	919,327.06
1954-55	24	559	13,307	10,434	1,232,701.01
1955-56	27	724	17,794	12,874	1,651,635.24
1956-57	29	834	23,124	10,585	2,008,057.61
1957-58	32	844	24,507	14,514	2,351,826.26
			239,662	471,197	$23,070,621.87

ARTIFICIAL INSEMINATION

One new Co-operative Association started breeding under the Department's assistance policy on January 1st with headquarters at Wetaskiwin. All Associations previously started under this policy operated with increasing membership and cow numbers, with the exception of the Acme Unit which turned its organization back to the private organization which originally instituted A.I. service in that area.

The first artificial breeding to be conducted in range herds in Alberta was conducted by the L. K. Ranch of Bassano with semen obtained from the Guelph Ontario freezing centre, and by Keith Reesor of Walsh, with semen obtained from American Breeders Service.

The number of cows bred artificially increased sharply from the 1957 total of 24,000 to approximately 35,000. The number of Alberta dairymen and farmers using this service is approximately 4,000.

DAIRY HEIFER CALF POLICY

Surplus dairy calves were gathered in the Edmonton milk shed areas in the previous year at $32.50 each with gathering and delivery cost paid by the Department. The supply of calves was exceptionally good and clubs were filled without undue delay. All orders were filled and 326 calves were placed, compared to 384 in the previous year.

SWINE AND SHEEP

Growth in these industries and requests for service related thereto is illustrated in the following table. The demand for service could not be entirely met by one supervisor devoting full time to these two divisions.

Year	No. Meetings	Total Attendance	Average Attendance	No. Farm & D.A. Visits
1954	92	4,413	48	214
1955	58	3,000	52	219
1956	91	4,041	44	330
1957	44	2,404	57	290
1958	40	2,588	65	375

SWINE

Alberta swine production in 1958 increased by approximately twenty-five percent. Percentage of A grade carcasses increased by one percent. The average carcass weight of market hogs has risen from 146 pounds in 1942 to 156 pounds in 1957 and this trend of marketing at heavier weights has no doubt retarded improvement in percentage of A grades. Prices on Edmonton stockyards for grade A hogs fluctuated from a weekly high of $31.55 per Cwt. during the week ending May 17th to floor price of $21.50 in the last week of November. The yearly average being $26.50.

Federal premiums remained at $2.00 per head on A's and $1.00 on B^1 grades. Grade discounts established in April, 1954 remain at the following differentials.

Grade A	Basic Price
Grade B1	$1.00 cwt. discount from basic
Grade B2	1.25/cwt. discount from basic
Grade B3	1.60/cwt. discount from basic
Grade C	3.00/cwt. discount from basic
Grade Heavy	3.25/cwt. discount from basic
Grade Extra Heavy	4.75/cwt. discount from basic

1958 Canadian pork exports to United States increased by 72% over 1957, total exports reached 70,000,000 pounds. There were less than 200 live hogs exported in the same period. This heavy export prevented domestic market reaching floor prices earlier in the year.

Demand for good quality breeding stock was keen throughout the year, especially for good sires of Advance Registry breeding. Regional swine sales contributed to wider dispersal of purebred sires over the province. Inspection and culling of boars under Policy B provided a strong influence in maintaining satisfactory quality at sales.

Several Landrace sales were held as in 1957 but prices were more moderate due to the increased number of breeders, and pigs of this breed available locally.

As in the two previous years, this Department was represented on The Advisory Committee on the registration and distribution of the Lacombe breed of swine. Registration of the breed is now an accomplished fact. Distribution of fifteen breeding herds, consisting of three gilts and a boar was made from The Lacombe Experimental Farm in October, at a price of $600.00 per group. Eight of these groups went to Alberta breeders. Approximately 100 single boars were distributed to applicants from different parts of Canada at $150.00 each. This breed is showing exceptional merit under Advance Registry Tests. Scores of 85 to 92 percent are usual, with average maturity of less than 180 days from birth to market weight of two hundred pounds.

Nine different Associations sponsored a total of thirteen purebred swine sales at Edmonton, Calgary, Lethbridge, Camrose, Lacombe, Olds, Sangudo and Vermilion. These sales were all conducted under the Department's Swine Policy B. This policy requires that all contributing herds be covered by Veterinary inspection and all entries be inspected by a culling committee. Under Policy B each purchaser of a boar is eligible in every second year to a bonus of five dollars on boars selling at $50.00 or less and to a ten dollar bonus on boars selling at over $50.00.

The second annual Advance Registry Sale was again held in Camrose for which farm selection of swine entries were made by a committee consisting of Federal, Provincial and Breeder representatives.

Prices at all sales were generally good to strong.

The following tabulated report covers: (a) all sales, (b) Calgary and Edmonton sales, (c) regional sales, and (d) Advance registry sales.

PRICE AVERAGE COVERING ALL ALBERTA SALES 1957-58

	1957		1958	
Breed and Sex	No.	Av. Price	No.	Av. Price
Yorkshire Boars	444	$ 94.36	584	$113.97
Yorkshire Sows	383	75.73	626	102.75
Tamworth Boars	60	84.23	79	86.30
Tamworth Sows	34	68.09	64	83.82
Berkshire Boars	....	....	1	90.00
Berkshire Sows	....	....	4	96.25
Landrace Boars	13	181.54	46	125.81
Landrace Sows	4	149.38	28	147.86
Total and Average	938	$ 86.61	1,433	$107.16

PRICE AVERAGE COVERING CALGARY AND EDMONTON SALES IN 1957-58

	1957		1958	
Breed and Sex	No.	Av. Price	No.	Av. Price
Yorkshire Boars	193	$101.88	320	$132.21
Yorkshire Sows	197	74.41	400	111.36
Tamworth Boars	33	85.83	54	90.46
Tamworth Sows	26	65.19	55	85.14
Berkshire Boars	....	....	1	90.00
Berkshire Sows	....	....	4	96.25
Landrace Boars	7	217.86	35	132.14
Landrace Sows	2	140.00	25	154.20
Total and Average	458	$ 88.82	894	$117.87

PRICE AVERAGE FOR REGIONAL SALES (NOT A.R.) 1957-58

	1957		1958	
Breed and Sex	No.	Av. Price	No.	Av. Price
Yorkshire Boars	195	$ 92.38	227	$ 91.29
Yorkshire Sows	150	75.98	193	89.73
Tamworth Boars	27	82.26	25	77.30
Tamworth Sows	8	77.50	9	75.78
Landrace Boars	6	139.16	11	105.68
Landrace Sows	2	158.75	3	95.00
Total and Average	388	$ 86.11	468	$ 89.96

PRICE AVERAGE FOR ADVANCE REGISTRY SALE 1957-58

	1957		1958	
Breed and Sex	No.	Av. Price	No.	Av. Price
Yorkshire Boars	56	$101.70	37	$ 95.34
Yorkshire Sows	36	81.46	34	75.37
Total and Average	92	$ 93.77	71	$ 85.78

SWINE IMPROVEMENT POLICIES

Swine Improvement Policies A and B, and the Advanced Registry Assistance Policy were operated on the same basis as in the previous year. The Branch also carried on the Live Stock Listing Bureau which provides for services of locating, purchasing, and shipping of breeding stock to those who are not eligible under other policies, however as this is strictly a service policy no transportation or bonus assistance is paid.

SWINE PLACED UNDER IMPROVEMENT POLICY A AND L.L.B.

	Live Stock Listing				
Year	Gilts	Boars	Impr. Policy Boars	Total Boars	Bonus Paid
1954	16	24	136	160	$ ....
1955	27	14	160	174	870.00
1956	9	13	185	198	1,645.00
1957	6	26	213	*239	2,060.00
1958	9	19	234	253	2,340.00

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*This total includes 15 Tamworth boars and 1 Landrace Boar.

BONUS PAYMENTS ON POLICY "B" BOARS AT ALL ELIGIBLE SWINE SALES

	No. @ $5.00	No. @ $10.00	Total Boars	Total Bonus
1956	10	258	268	$2,630.00
1957	4	351	355	3,530.00
1958	......	430	430	4,300.00

ADVANCE REGISTRY SWINE ASSISTANCE POLICY BONUS

		Bonus Paid Out			Total	Total
	Breed	$30.00	$40.00	$50.00	No. Sows	Paid Out
1957	Yorkshire	39	50	19	108	$4,120.00
1958	Yorkshire	19	40	25	84	3,420.00

Seven swine field days were held in various parts of the province during the summer. Swine management, housing and disease problems were discussed by local District Agriculturists, and members of the Live Stock and Veterinary Branch. Branch personnel did considerable selecting and culling in breeding herds upon request. The demand for special study and planning of production facilities, including renovation of buildings, new buildings and complete building and pasture lay-outs greatly exceeded the time available. Demand for services in connection with the culling of purebred swine at approved sales and attendance at special meetings and agricultural short courses was at times difficult to meet with the personnel available.

ALBERTA HOG GRADING FOR YEARS 1954 TO 1958 INCLUSIVE

	1954	1955	1956	1957	1958
Grade	%	%	%	%	%
A	18.22	18.90	20.20	20.70	21.40
B1	44.26	42.77	41.20	40.90	41.10
B2	3.80	4.47	5.00	3.70	3.60
B3	6.31	5.58	5.20	6.10	6.40
C	13.88	15.01	14.50	15.50	13.70
Light	1.25	2.01	2.30	1.40	1.4
D	0.56	0.71	0.80	0.60	0.7
Heavy	2.79	2.53	2.10	2.90	3.0
Extra Heavy	2.26	1.94	2.40	2.50	2.6
Injured	0.04	0.03	0.03	...	...
Rgl.	0.54	0.53	0.50	0.50	0.6
Stags	0.47	0.47	0.60	0.50	0.5
Sows	5.62	5.05	5.20	4.70	5.0

ESTIMATED NUMBER OF SWINE ON FARMS IN ALBERTA AT JUNE 1st

1954	1,408,000
1955	1,620,000
1956	1,211,500
1957	1,300,000
1958	1,710,000

SUMMARY OF ALBERTA HOG CARCASSES GRADED AT ALL INSPECTED PLANTS 1954-1958

Year	"A"	"B1"	"B2"	"B3"	"C"	"D"	Light	Heavy	Exrta Heavy	Injured	Ridglings	Stags	Sows	Total No.	Total Sales Value
1954	266,366	647,052	55,523	92,205	202,913	8,151	18,217	40,754	33,003	544	7,882	6,950	82,210	1,461,770	$66,829,792.00
1955	318,653	721,081	75,311	94,125	253,021	11,950	33,875	42,588	32,758	600	8,919	7,856	85,150	1,685,887	60,324,854.00
1956	317,789	647,082	77,653	82,241	228,487	12,434	36,715	38,218	32,797	404	7,976	8,615	81,425	1,571,929	59,025,934.00
1957	294,567	585,345	53,299	86,942	221,647	8,353	20,760	42,319	35,967	211	8,287	7,213	67,238	1,432,157	64,413,949.00
1958	387,222	745,655	64,806	115,316	249,078	12,975	25,729	54,305	47,341	164	10,104	9,169	90,322	1,812,186	74,618,843.00

SHEEP

Increased service was required of Branch personnel in culling and selection within flocks, and the purchasing of range ewes for shipment to farm areas. Two 4H sheep breeding clubs were organized in the Lacombe district by the District Agriculturist and local committees. Sheep shearing schools organized and directed by the Branch supervisor were held at Olds, Sundre, Warburg, Keephills, Rife, Greencourt and Naples. As in previous years these were working schools where instruction in hand and power shearing was given by expert shearers. Details of other sheep management factors such as crutching, docking, castration, internal and external parasite control, wool grades and wool packing were discussed and demonstrated by the supervisor and a member of the Canadian Co-operative Wool Growers staff.

A number of sheep meetings were held during the winter months. Interest was high showing a growing number of farmers becoming interested in sheep production.

The sheep industry in Alberta is gradually expanding. Demand for grade breeding ewes was strong. Prices for young breeding ewes ranged from $22.00 to $28.00. A number of larger feedlot ewe-lambs were purchased by American buyers for breeding purposes in the United States. Prospective Alberta sheepmen would profit well by investigating this source of breeding stock.

An effective predator control program has made sheep farming possible in practically every part of the province. Losses due to predators were practically negligible.

Edmonton prices of good market lambs fluctuated from a low of $17.10 per Cwt. in the middle of August to a high of $27.00 during the first week of June, with a yearly average of $20.00. The years average for good ewes was $9.80 and the stockyard price average for feeder lambs was $15.80. These prices were disappointing to sheepmen when related to cattle prices during the same period. Approximately 60,000 sheep and lambs went into Alberta feedlots which is about one third less than in 1957. Range lambs went direct to feedlots in the fall at $18.00 to $19.00 per Cwt. Very few older ewes are being fed. Over 3,000 ewe lambs are being carried over in feedlots for special U.S. demand requiring young replacement ewes in the spring. Export of sheep from Canada to the United States was 115% greater than in the previous year.

The wool clip in Alberta averaged approximately 8.0 pounds. The Canadian average was 7.3 pounds per head. Many black faced flocks sheared considerably less than average, resulting in greater demand for white face rams for crossing purposes.

Alberta wool made up 1,925,000 pounds of the total Canadian clip of 6,245,000 pounds. Wool prices dropped sharply during the year. Domestic wool averaged 22 cents per pound. The Federal Government announced a Deficiency Payment on the 1958 wool clip equal to an amount necessary to bring the price of choice half-blood range wool to 60 cents per pound, F.O.B. Toronto. For example, if Half-blood wool sells at Toronto at an average of thirty-five cents per pound the deficiency payment would be twenty-five cents and this same payment would be made on all acceptable grades. To qualify for bonus wool must be sold through registered wool warehouses on established Government grades.

Successful purebred sheep sales were held at Edmonton, Calgary, Lethbridge and Sangudo. These sales were conducted under conditions of the Departments Sheep Improvement Policy B and all purebred rams were graded or classified into A and B grades by a committee of three, one of which is a member of the branch.

COMPOSITE SUMMARY OF PUREBRED SHEEP SALES AT LETHBRIDGE, SANGUDO, CALGARY AND EDMONTON

	1957		1958	
Breed and Sex	No.	Av. Price	No.	Av. Price
Suffolk Rams	156	$ 56.89	97	$ 96.92
Suffolk Ewes	100	38.78	70	62.31
Hampshire Rams	32	64.61	38	60.46
Hampshire Ewes	8	29.00	2	50.00
Cheviot Rams	10	47.75	5	33.50
Cheviot Ewes	2	26.25	2	25.00
N.C. Cheviot Rams	43	64.00	29	94.74
N.C. Cheviot Ewes	1	150.00	12	53.34
Corriedale Rams	43	62.17	36	78.95
Corriedale Ewes	9	47.22	......	......
Southdown Rams	6	42.50	6	53.34
Southdown Ewes	6	21.66	3	43.00
Oxford Rams	10	43.00	9	66.12
Oxford Ewes	7	21.78	3	27.50
Columbia Rams	......	....	2	155.00
Total Sheep & Average	428	$ 53.73	319	$ 76.36
Grade Ewes	154	16.62	90	22.23

In addition to the above sales fifty-two purebred sheep were sold at the Calgary Summer Sheep Sales in July. Mr. C. H. Borwick contributed the top selling ram which brought $600.00 and Mr. Thos. Hudson contributed the high selling ewe at $370.00.

SHEEP IMPROVEMENT POLICY

Sheep Improvement Policies A and B were operated on the same basis as in the previous year. Farmers who do not qualify under Policy A or B may obtain rams or breeding ewes under Live Stock Listing Bureau (L.L.B.).

The following tables show sheep placements under the above policies.

	Live Stock Listing Bureau		Improvement Policy	
Year	Ewes	Rams	Rams	Total Rams
1954	4	5	35	40
1955	164 (grade)	7	34	41
1956	9	......	21	21
1957	......	2	62	64
1958	110 (grade)	6	73	79

Of the rams, 36 were Suffolk, 10 Hampshire, 7 North Country Cheviot, 6 Columbia, 6 Romnelet, 7 Rambouillet, 5 Corriedale, 1 Oxford, and 1 Southdown.

BONUS PAYMENTS ON POLICY B RAMS @ ALL ELIGIBLE SALES

	No. @ $8.00	No. @ $12.00	Total Rams	Total Bonus Paid
1957	45	76	121	$1,272.00
1958	29	51	80	844.00

ESTIMATED NO. OF SHEEP ON ALBERTA FARMS JUNE 1ST SURVEY

1954	440,000
1955	460,000
1956	404,820
1957	450,000
1958	470,000

ALBERTA SHEEP AND LAMB MARKETING

	LAMBS				SHEEP	
	Good	Common	Bucks	Feeders	Good	Common
1954	91,071	11,102	622	8,646	3,436	2,536
1955	110,037	12,535	1,278	10,138	4,015	2,376
1956	125,471	11,699	1,342	8,720	3,545	2,679
1957	120,175	10,956	1,761	11,691	4,686	2,138
1958	117,110	13,999	354	10,950	3,034	1,871

ALBERTA COMMERCIAL SHEEP MARKETING AND VALUES

Year	Stock Yards	Plants	Direct Export	To Country Points	Total	Value
1954	37,230	80,183	46	4,766	122,225	$1,800,646.00
1955	44,102	96,277	4,833	2,138	147,350	2,107,026.00
1956	43,740	109,716	1,461	3,649	158,566	2,300,517.00
1957	50,151	101,257	9,150	2,574	163,132	2,549,661.00
1958	52,565	94,753	18,443	765	166,526	2,856,062.00

EXPORT OF PURE BRED SHEEP FROM ALBERTA TO U.S.A.

Year	No. of Head
1954	192
1955	452
1956	104
1957	214
1958	277

CANADIAN EXPORT OF SHEEP AND LAMBS

	To United States		Total Export	
Year	No.	Value	No.	Value
1954	1,798	$ 81,901	2,402	$ 91,732
1955	8,537	232,942	8,874	239,263
1956	4,134	138,847	5,090	201,476
1957	17,209	326,660	17,788	336,279
1958	40,512	818,317	40,512	818,317

CANADIAN EXPORT OF MUTTON AND LAMB

	To United States		Total Export To All Countries	
	No. Lbs.	Value	No. Lbs.	Value
1954	23,100	$ 9,491	53,000	$ 28,225
1955	238,100	94,120	272,600	110,553
1956	2,200	916	45,000	24,840
1957	435,800	177,717	472,300	200,212
1958	1,355,700	509,751	1,376,800	526,160

CANADIAN IMPORT OF MUTTON AND LAMB (Pounds)

Imported From:	1954	1955	1956	1957	1958
United Kingdom	5,356	5,544	3,080	768	250
United States	651,830	273,552	208,417	1,054,595	962,215
Australia	2,759,391	2,274,279	3,413,008	3,360,465	4,768,641
New Zealand	3,907,796	7,176,008	5,938,183	6,644,172	15,934,441
Other Countries	....	....	....	205	....
	7,324,373	10,829,383	9,563,088	11,350,205	21,665,547

HORSES

The horse population continued to decline and was estimated at June 1st to be 132,000 which was 5.7% less than the estimated number at the same time in 1957.

One horse sale was held at Calgary and in addition to horses sold at regular auction market sales there were approximately 12 special horse sales held at auction markets throughout the province. This activity provided the main horse markets apart from sales made by direct delivery to horse processing plants.

All Alberta brand inspectors inspected approximately 13,500 horses compared to about 14,000 inspected the previous year. Of this number it is estimated that ninety to ninety-five percent went to slaughter plants.

Interest in light horses remains very active and high prices were recorded for good quality saddle horses and ponies. This trend was supported by increased breeding of thoroughbreds, quarter horses, arabians and other saddle types as well as ponies.

ALBERTA LIVESTOCK AND LIVESTOCK PRODUCTS ACT

The number of Class C stockyards licensed remained the same as in the previous year, namely thirteen. Twenty-one Class D stockyards were licensed compared to twenty-four in 1957. Two new yards were licensed at Bow Island and High River. Yards at

Athabasca, Eckville, Holden and Castor were not licensed due to change in operation or lack of volume. Considerable study was given to a general stockyard licensing program. All licensed yards were visited at random by a branch Inspector.

A total of 772 live stock dealers and agents licenses were issued. This was made up of 519 dealers and 253 agents. The main problem in this respect was licensing out-of-province buyers, many of them from the United States.

A few prosecutions were instituted for unlawful dealing and the bond of one dealer was called for failure to make payment to producers. A few licenses were cancelled due to cancellation of the bond by the bonding companies.

Licenses were issued to four wool warehouses and eleven wool buyers and collectors.

RECORDING OF BRANDS

Early in the year the transfer of all names from the card index life to the Linedex system was completed. Preparing material for a new brand book was started in April and with one assistant in addition to regular staff was completed in September. The finished books were received from the printer in December. This book contains 30,923 brands.

Transfer of horse brands from the ledger to Kardex system was completed at the year's end.

Two thousand three hundred and sixty letters were sent out compared to 2,598 in 1957. These letters were mostly in answer to requests for new registrations and transfers but included dealing with the use of unregistered brands reported by brand inspectors. The following statistical summary sets out the volume of recordings completed.

	Cattle	Horse	Sheep	Poultry	Fox	Total
New Brands issued	1,407	222	1	2	......	1,632
Transfers registered	335	37	1	......	......	373
Certified extracts issued	2	......	......	......	......	2
Brands renewed	5,515	610	5	2	1	6,133
Brands cancelled	207	41	1	......	......	249
	7,466	910	8	4	1	8,389

Brand Renewal Notices Mailed:

Cattle ... 5,830 Horse ... 802 Sheep ... 5 Poultry ... 2 Fox ... 2 Total ... 6,641

The Number of Brands in Good Standing as at December 31, 1958:

Cattle	27,683
Horse	3,585
Sheep	19
Poultry	12
Fur Bearing	3
Total	31,302

THE STOCK INSPECTION ACT

American demand for Canadian cattle continued strong throughout the year and with its stimulation of country sales, both private and public, placed continuous pressure on all inspection personnel. Renovation of unloading facilities at the Calgary stockyards required the addition of one inspector to the Calgary staff from September first to the end of the year. The necessity of clearing most shipments of U.S. destination with detailed lists of brands greatly increased the amount of inspection time necessary.

The Live Stock Commissioner attended the National Brand Conference at Salt Lake City in July and later met with Montana authorities at Coutts to work out details of clearance on cattle billed to and through that State.

In addition to full time brand inspectors at Edmonton, Calgary, Lethbridge and Lloydminster, deputy inspectors were employed at Pincher Creek, Taber, Brooks, Stettler, Red Deer, Camrose, Hardisty, Ponoka and Grande Prairie to conduct auction market inspections in those areas. Inspections in the Medicine Hat area were conducted by the R.C.M. Police, as were scattered inspections in many other areas. Inspection of Alberta cattle at St. Boniface was conducted by Mr. Franklin of the Saskatchewan Department on the reciprocal arrangement in effect for the past few years. Initial contact was made with the British Columbia Department regarding possibility of required inspection at Dawson Creek with the opening of the P.G.E. Railroad.

Approximately sixty community auction sales were inspected at Pincher Creek, Lundbreck, Pakowki, Parkbend, Hanna, Brooks and Lea Park in addition to approximately seven hundred sales at Class D stockyards.

The total number of stock inspected at all markets and direct on export was 1,279,845 head compared to 1,166,945 in 1957, for an increase of 9.6 percent.

Inspection of cattle returned to feedlot, cover crop and pasture totalled 190,085 head compared to 175,154 head the previous year. The total of all inspections in and out of markets covered 1,469,930 head compared to 1,292,099 in the previous year.

The number of stock held up for further investigation was about the same as the previous year.

Excellent co-operation was received at all times from the R.C.M. Police. There was some increase in the numbers of stock reported lost but subsequent investigations continue to establish that this stock is not marketed through the regular market channels.

There were two hundred and seventy-four butchers and hide dealers licensed as compared to two hundred and ninety-six in the previous year. All licensed butchers were visited at least once, and in most cases twice, by an inspector of the Branch.

LIVE STOCK AUCTIONS OTHER THAN PUBLIC STOCKYARDS

Total cattle sold through about sixty community auction sales was 42,839 head, compared to 52,627 head in 1957. The decrease was attributed to increased direct sales from ranches to export, and increased activities of Class D stockyards. Class D stockyards greatly increased their volume of all classes. Cattle and calf sales increased to 131,508 head compared to 101,843 in 1957. Swine sales were 238,355 compared to 127,463 in 1957; sheep numbers were 13,772 compared to 8,749 in 1957 and horses totalled 4,798 compared to 3,055 in the previous year. Total number of live stock sold through Class D stockyards was 388,433 compared to 241,122 in 1957.

IMPROVEMENT DISTRICT STRAY ANIMALS ACT

Nine new pound districts were established, bringing the total of active pounds in operation at the end of the year to one hundred and twenty-nine.

THE HORNED CATTLE PURCHASES ACT

Under provisions of this Act deduction of two dollars per head was made on all horned cattle going through markets in the province, or shipped out of the province.

The following table shows the percentages of cattle with horns marketed at the main market centres.

	1949	1955	1956	1957	1958
Calgary	15.6	9.5	8.7	7.6	6.6
Edmonton	19.9	14.6	13.1	12.4	12.9
Lethbridge	....	9.8	11.7	8.9	8.4
St. Boniface	13.0	6.5	7.3	5.1	2.2
Community Auction Sales	10.4	4.1	4.7	4.0	3.5
Lloydminster	....	8.0	....	3.5	....
Class D Stockyards (Auction Marts)	....	8.3	....	....	....
Provincial Average	17.4	11.4	10.9	8.9	9.0

PURE BRED SIRE AREA ACT

The Vermilion Valley Municipal District Pure Bred Sire Area added swine to the classes of animals coming under this Act.

ACKNOWLEDGMENTS

As in years past, excellent co-operation was received from the various breed associations, sale associations, agricultural societies, exhibition associations, and commercial organizations dealing in the live stock field. The co-operation and support of the R.C.M. Police in matters of investigation and enforcement; of other Departments of the Government; and the Federal Production and Marketing Services, is greatly appreciated and hereby acknowledged.

Report of the Dairy Branch

D. H. McCALLUM, Dairy Commissioner
J. B. Linneboe, Ph.D., Bacteriologist
L. M. Silcox, Supervisor, Dairy Factory Inspection
R. P. Dixon, Supervisor, Dairy Cattle Improvement
B. J. McBain, Supervisor, Farm Cost Studies
L. H. Arnold, Supervisor, Frozen Food Locker Plants
A. F. Bennett, Charge of Dairy Statistics

GENERAL REVIEW

While lack of moisture adversely affected pasture conditions during the early summer, 1958 proved a very favourable year for dairying. Milk production amounted to 1,544,948,000 pounds which represents an increase of 4.2% over the 1957 figures. Prices for dairy products were higher than during the previous year. The total value of dairy products at factory plus that portion of milk used on farms reached an all time high of $61,895,000.00. This represents an increase of more than $4,300,000.00 over the 1957 total.

Creamery butter output was up over 2,000,000 pounds and with an increased price, the value of creamery butter advanced by $2,298,000.00. Very little change in the utilization of milk occurred during the year. About 1% more was used in creamery butter manufacture while slightly smaller percentages were used on farms for dairy butter manufacture, feeding farm animals and consumption in farm homes.

The number of milk cows on farms at June 1st was estimated at 275,000 head by the Dominion Bureau of Statistics. This is a reduction of 5,000 head or 1.8% below the 1957 total. On the basis of total cow numbers and total milk, the average production per cow amounted to 5,618 pounds, an increase of 324 pounds over the previous high established in 1957. Production per cow is recognized as the greatest single factor for economic milk production and it is interesting to note that since 1940 the average has increased by 1,658 pounds per cow.

The quality of dairy products has been well maintained at the high level established in recent years. Approximately 98% of all creamery butter graded was found to be of first grade quality by Federal Dairy Produce Graders. A gradual improvement of all dairy products and more particularly fluid milk is evidenced from laboratory reports, panel score cards and judging results at leading Canadian Exhibitions.

New regulations pertaining to milk grading and the licensing of milk graders became effective July 1st. A further expansion of the system for handling milk with farm bulk tanks and and milk transportation tanks occurred during the year. It was estimated that at the end of 1958, there were 250 farm bulk tanks and 12 milk transportation tanks in operation.

There were 8,709 cows tested under the Provincial Cow Testing plans which was an increase of 1,669 head from the previous year. The average production of these cows was 10,091 pounds of milk and 347.3 pounds of butterfat representing gains of 619 pounds of milk and 21.9 pounds of butterfat from the previous year. This is the first year that the average production for cows under test exceeded 10,000 pounds of milk and indicates a high degree of efficiency in the handling of these herds.

ESTIMATED FARM VALUE OF ALBERTA MILK PRODUCTION 1958

The quantity, price, value and utilization of milk production during 1958 is reported in the following table. To indicate changes from the previous year the 1957 figures have been included.

	Year	Pounds	Milk Equivalent Pounds	Percent Total Milk	Price	Value
Butterfat for Creamery Butter	1958	28,147,000	803,228,000	52.0	$ .659 per lb.	$18,555,000
	1957	26,372,000	752,567,000	50.8	.625 per lb.	16,480,000
Farm Dairy Butter	1958	2,643,000	61,846,000	4.0	.59 per lb.	1,559,000
	1957	2,660,000	62,244,000	4.2	.56 per lb.	1,490,000
Milk and Butterfat for Ice Cream (milk basis)	1958	....	55,522,000	3.6	2.85 per 100 lbs.	1,581,000
	1957	....	51,561,000	3.5	2.57 per 100 lbs.	1,324,000
Milk for Cheesemaking and Concentrating	1958	....	65,489,000	4.2	2.74 per 100 lbs.	1,792,000
	1957	....	65,104,000	4.3	2.60 per 100 lbs.	1,696,000
Milk Fluid Sales	1958	....	294,733,000	19.1	4.61 per 100 lbs.	13,600,000
	1957	....	287,072,000	19.4	4.54 per 100 lbs.	13,029,000
Cream Fluid Sales (milk basis)	1958	....	53,670,000	3.5	2.82 per 100 lbs.	1,511,000
	1957	....	53,122,000	3.6	2.54 per 100 lbs.	1,352,000
Milk Farm Home Consumed	1958	....	151,400,000	9.8	2.62 per 100 lbs.	3,967,000
	1957	....	152,600,000	10.3	2.50 per 100 lbs.	3,815,000
Fed Farm Animals	1958	....	59,060,000	3.8	2.62 per 100 lbs.	1,547,000
	1957	....	58,100,000	3.9	2.50 per 100 lbs.	1,452,000
Kept on Farms Skimmilk from Creamery Butter and Skimmilk and Buttermilk from Dairy Butter	1958	766,373,000	....	....	.35 per 100 lbs.	2,683,000
	1957	723,518,000	....	....	.35 per 100 lbs.	2,532,000
Total	1958	....	1,544,948,000	100.0	....	46,795,000
	1957	....	1,482,370,000	100.0	....	43,170,000

ESTIMATED PRODUCTION AND VALUE OF FACTORY DAIRY PRODUCTS

The following table shows the quantity, price and value of dairy products manufactured or processed in Alberta dairy manufacturing plants during 1958 and 1957.

	Year	Quantity	Price	Value
Creamery Butter, lbs.	1958	34,326,000	$ .625 per lb.	$21,454,000
	1957	32,161,000	.5956 per lb.	19,155,000
Cheddar Cheese, lbs. (including net increase in processing)	1958	1,635,000	.3886 per lb.	635,000
	1957	1,822,000	.3776 per lb.	688,000
Ice Cream, Gallons*	1958	3,266,000	1.74 per gal.	5,683,000
	1957	3,033,000	1.74 per gal.	5,277,000
Fluid Milk Sales, lb. (including processing charges)	1958	294,733,000	6.01 per 100 lbs.	17,726,000
	1957	287,072,000	5.89 per 100 lbs.	16,905,000
Cream as Milk, lbs, Fluid sales (including processing charges)	1958	53,670,000	4.21 per 100 lbs.	2,262,000
	1957	53,122,000	3.89 per 100 lbs.	2,069,000
Skimmilk and Buttermilk Sales for Human Consumpion (including processing charges)	1958	15,028,000	3.35 per 100 lbs.	503,000
	1957	13,641,000	3.57 per 100 lbs.	487,000
Skimmilk, Buttermilk, lbs.	1958	42,865,000	.35 per 100 lbs.	150,000
	1857	41,016,000	.35 per 100 lbs.	144,000
Whey, lbs.	1958	13,604,000	.175 per 100 lbs.	24,000
	1957	15,139,000	.175 per 100 lbs.	26,000
Miscellaneous Manufactured Products**	1958	....	....	3,700,000
	1957	....	....	3,520,000
Total	1958	....	....	52,137,000
	1957	....	....	48,271,000

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*Mix converted to Ice Cream on basis of 100% overrun.

**Includes concentrated milk products, cottage cheese, whey butter, cheese other than cheddar and yoghurt.

BRANCH EXTENSION ACTIVITIES

Meetings

Officials of the Branch took part in a considerable amount of extension work throughout the year. Meetings, field days and short courses organized for farm audiences were attended and addressed by the Commissioner, the various supervisors and to a lesser extent the dairy inspectors. Assistance was given to the Junior Activities Branch in preparing material for the Dairy Calf Club project and supplying judges for several achievement days as well as the Provincial Show at Red Deer. Press and radio news releases were written on timely or seasonal items. Radio talks were delivered by officials of head office.

Convention and Conferences

The Provincial Dairy Convention and conferences for dairy plant workers were organized by Branch officials in co-operation with The Alberta Dairymen's Association. In every case members of the staff delivered addresses and actively participated in discussions. The Branch Head attended a conference for Federal and Provincial Dairy officials at Ottawa during May, while officials of the Farm Cost Studies Division attended an International Economics Conference at Winnipeg during August. As a member of the Highway Traffic Board, the Branch Head attended regular Board meetings and also Public Hearings which dealt with applications for extra-provincial authority.

Monthly Releases

The Branch prepares and distributes two monthly letters. One is designed for dairy plant personnel and in addition to items dealing with manufacture and processing, it contains several tables of monthly statistics on production, stocks and quality of dairy products. The other monthly letter entitled "Dairy Herd Improvement News" deals with dairy production information and is sent to all herd owner on the Cow Testing Service. Both letters are sent to district agriculturists and others interested in this type of information.

Publications

The preparation, publishing and distribution of new and revised bulletins on dairy topics required the attention of most head office personnel. New publications included: No. 85—"Keeping Milk Clean", No. 95—"Cream Weights", No. 75—"Mastitis Control Service", and No. 62—"Important Message to All Cream Producers", which dealt with antibiotics in milk. The testing manual designed to assist prospective candidates in qualifying for grading and testing licenses was revised and published. Posters outlining the new milk grade standards and the weighing, sampling and grading of bulk milk were prepared and distributed to interested parties.

Diploma Course in Dairying

The Dairy Branch again co-operated with the Department of Dairying, University of Alberta and Canadian Vocational Training in holding the Diploma Course in Dairying. This was the seventh such course which is now held every second year. The course which commenced in November 1957 terminated on April 11, 1958 with 15 students receiving either Diplomas or Certificates.

Milk Graders' Short Courses

To assist operators of milk transportation tanks in obtaining grader's licenses, short courses were conducted by officials of the Dairy Branch assisted by personnel from the City Health Departments. These courses were held during the early summer at Edmonton, Lethbridge and Calgary. Instruction included grading and sampling practices together with interpretation of regulations under The Dairymen's Act.

Check Weighing of Butter

With no butter being sold to the Agricultural Stabilization Board during the year, there was little demand for weight certificates. Only 68 boxes were check weighed representing a total of 24,174 pounds of butter.

DAIRY PLANT INSPECTION AND INSTRUCTION SERVICE

The Dairy Branch field staff of eleven full time personnel carry out inspection and instruction work at all dairy manufacturing and frozen food locker plants. Official inspector headquarters are located at Fairview, Vermilion, Edmonton, Ponoka, Red Deer, Calgary and Lethbridge. J. H. Warne previously in charge on a part time basis at the Fairview inspectorate resigned to enter private business and he was replaced on a full time basis by K. J. MacDonald, a veteran of World War II and a graduate in Dairy Science.

Licensing

A total of 126 dairy manufacturing plants operated during the year. Sixty-two of these plants processed more than one dairy product. In every case, but three, these plants purchased both milk and cream from producers.

A revision in licenses for grading and testing became necessary with the change in regulations effective July 1, 1958. Establishment of milk grade standards demanded that trained personnel become qualified to classify all milk purchased. This applied both to graders at plants receiving milk from individual can shipments and from milk transportation tank operators. Following special examinations conducted by Dairy Branch officials, thirty licenses were issued to tank milk graders who grade the milk at farms. One hundred and thirty-four milk grader's licenses were also issued to plant personnel.

Since requirements for testing work in plants now includes a knowledge of qualitative as well as quanitative tests it became necessary to dispense with the combined cream grader's and tester's license. Separate cream grader's licenses are now issued to those qualifying in that work. The number of licenses thus issued were 259 for milk and cream testers and 207 to cream graders.

Inspections

Inspections made at all plants by the field staff totalled 1,540. Check grading and testing of milk and cream made up an important part of the duties in basic plant inspection work. In this phase, there were 83,793 shipments of cream check graded and a total of 29,402 samples of milk and cream were officially tested. Adjustments on payments to patrons by reason of errors in grading, testing or calculations were necessary for only 1.7% of the total.

Quality Control and Regulations

Increased production during the year especially in butter manufacturing added to the task of maintaining high quality in raw and finished products. However, the overall effect of modern plant installations such as stainless steel churns, plate coolers and farm bulk tanks has undoubtedly been most beneficial.

For some years previous to this year's adoption of milk grade standards, Dairy Branch personnel have conducted an educational program among plant graders and testers to acquaint them with quality requirements and tests necessary to establish definite standards.

Each farm bulk tank is calibrated to enable measurements made by a special rod or device adapted to that particular tank. These measurements are converted into accurate weights by the milk tank grader with the use of a chart. Periodic verification of weights on these milk transportation tanks is done by Dairy Branch inspectors.

Competitions

Competitions to encourage product quality improvement and to promote better plant conditions were again conducted throughout the year. Samples for laboratory analyses, lifted and forwarded by Dairy Branch inspectors form the basis on which many of these competitions are conducted. Dairy Branch personnel again arranged for assembling and forwarding exhibits of butter and cheese to leading Canadian exhibitions and also the Scottish Dairy Show. In these out of province shows, there were 30 first prizes and 6 special prizes awarded to Alberta exhibits. Special awards went to Central Alberta Dairy Pool, Stettler; Lac La Biche Creamery Ltd., Lac La Biche; Northern Alberta Dairy Pool Ltd., Westlock and Sylvan Lake Creamery, Sylvan Lake.

The quarterly panel judging for ice cream and cottage cheese was arranged concurrently at Calgary and Edmonton on identical samples by Dairy Branch officials at those points. Final average results of these examinations form the basis of the annual quality competitions for these products.

Preliminary scores on all dairy plants for the Good Housekeeping Competition were made by local Dairy Branch inspectors and final scoring for top plants in each division was done by a committee appointed from Branch headquarters.

Plant Improvements

Extensive renovations and the rebuilding of plants continues to form an important part of the industry's modernizing program. New plants, replacing outmoded ones, were put into operation during the year at Evansburg, Bashaw and Innisfail. A new milk pasteurizing plant commenced operation at St. Albert. A combined butter and spray dry skimmilk plant is now under construction at Camrose and will be in operation early in 1959. Additional floor areas to accommodate modern needs have been constructed or are in the course of construction at several plants. Installation of newest types of processing equipment to replace that of older and less suitable design is also receiving increasing attention.

Dairy Plant Changes

Lac La Biche Creamery was purchased by Smith Produce Co.

Ltd., Edmonton, who took over operation on June 27th. The plant is operated under the name of Lac La Biche Creamery Limited.

Butte Dairy, Picture Butte discontinued operation of the plant on June 30th.

McLennan Dairy changed ownership on July 1st when H. J. and H. G. Dollevoet purchased the business from J. Deslauriers.

M. Dollevoet purchased the Grimshaw Dairy from W. J. Brown on July 1st.

High Prairie Dairy Limited expanded their operation to include the manufacture of creamery butter. The first churning was made on July 17th.

Star Dairy, Claresholm sold the business to Claresholm Creamery on November 17th.

LABORATORY SERVICE

The demand on laboratory services during 1958 was greater than for the previous year.

The following table lists the total number of samples examined as well as their nature. By including the figures for the previous year a comparison is possible.

	No. of Samples	
	1958	1957
Butter samples for mould and yeast	3,716	3,721
Bacteriological creamery survey samples	87	43
Butter samples for pH	1,651	1,676
Milk control service	7,864	7,404
Mastitis control service	4,065	2,796
Egg products	442	877
Cheese samples	22	39
Ice cream samples	214	138
Miscellaneous	305	302
Total	18,366	17,062

Mould and Yeast in Butter

The mould and yeast count of butter is a measurement of the sanitary conditions under which the butter is manufactured. It was the first laboratory service extended to Alberta creameries by the Department of Agriculture and had its beginning in 1925. Great forward strides have been made since that time and for the past several years butter defects traceable to a lack of plant sanitation have been practically absent. At present approximately one churning a week from each operating plant is examined. Where difficulties from high mould and yeast counts are experienced additional samples are lifted and occasionally a complete bacteriological survey of the manufacturing process becomes necessary.

The following figures indicate what has been accomplished over the years as well as the present status.

	Excellent (zero count)	Good (1-10 moulds & yeasts in 1 cc butter)	Fair (11-50 moulds & yeasts in 1 cc butter)	Poor (over 50 moulds & yeasts in 1 cc butter)
1925	3.6%*		12.7%	83.7%
1957	54.6%	28.5%	10.3%	6.6%
1958	65.0%	21.7%	8.3%	5.0%

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*A total count of 10 or less was classified as excellent in 1925.

It will be noted that during the year more churnings qualified as "Excellent". The fact that some creameries replaced old wooden churns, rather difficult to sanitize, with one made from metal has been a factor in this improvement.

pH Determination of Butter

The purpose of pH determinations, which have been conducted on representative samples for several years, is to assist the buttermaker in producing a uniform product with high keeping qualities and correct acidity. Controlling the pH of the butter is one of the mose exacting duties of the buttermaker and although good progress is being made there is still considerable room for improvement.

Assuming that the ideal pH range for butter is 6.95-7.25, we have the following figures for 1958 covering 1,651 churnings.

pH below 6.95	pH 6.95-7.25	pH over 7.25
23.2%	46.5%	30.3%

Mastitis Control Service

It is gratifying to note that for the second successive year there has been a significant increase in the number of milk samples received under the Provincial Mastitis Control Program.

Under this program a herd owner has the privilege of having milk samples from the entire herd examined for mastitis free of charge by making application through his veterinarian. In many instances the herds that came under the test were from farms supplying milk to the fluid milk trade and in some cases the motive for having the herd tested was that the milk had failed to stand up to the quality standards set by the dairy. Under these circumstances one would expect the rate of infection reported below to be above the provincial average.

Year	No. of Samples	Positive or Questionable	Negative
1957	2,796	44.1%	55.9%
1958	4,065	41.9%	58.1%

The most common form of infection was found due to streptococci and within that type the typical mastitis streptococci, "S. agalactiae", was predominant. It is significant that this bacterium often responded well to treatment with antibiotics and once eliminated from a herd it was unlikely to appear again unless brought in through the purchase of an infected animal.

Egg Samples

This is a continuation of the service that has been given to the Poultry Marketing Service, Canada Department of Agriculture and was provided at cost.

Cheese Samples

These were mainly received through the dairy inspectors and the tests required were usually of a chemical nature such as tests for salt, moisture or pH.

Ice Cream Samples

A considerable number of these were received in connection with the Provincial Ice Cream Competition. In addition some were lifted at ice cream vendors at country points in order to have a check on the composition and sanitation of ice cream sold under these conditions.

Miscellaneous

Here we have a great variety of material such as milk samples for leucocyte count, milk powders, waters, milk and cream samples for preservatives, extraneous matter for identification, egg yolks for beta carotene content, chlorine and detergent solution for chemical analysis, etc.

The laboratory has also continued the policy of supplying dairy factories with solutions and indicators used in acidity determinations and the cheese factories with a culture for making cheddar cheese.

Excellent co-operation was received from the inspection staff of the Dairy Branch and the sanitary inspectors connected with the Provincial and Local Boards of Health. These officials were responsible for lifting and forwarding samples and interpreting results to dairy plant operators or herd owners.

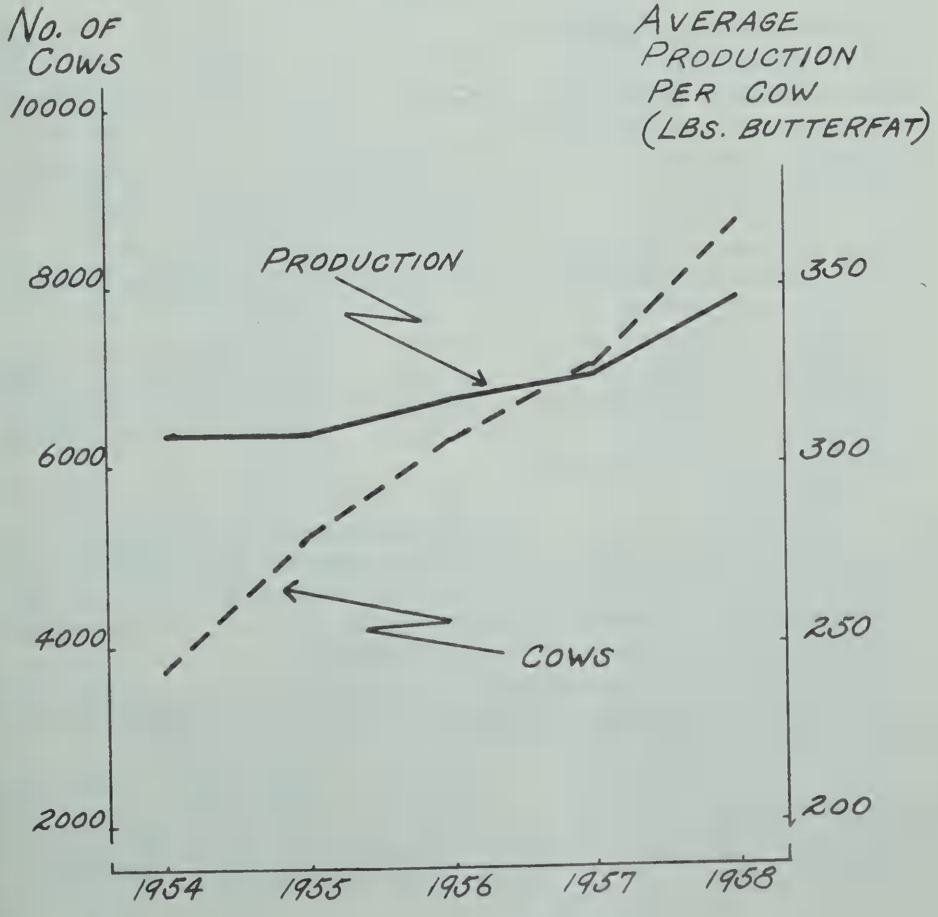
DAIRY CATTLE IMPROVEMENT SERVICE

Cow Testing

An all time record for herds and cows under test with the highest average milk and butterfat production highlights the 1958 report of this division.

During the year, 82 new herds and 1,539 cows were placed under test and 28 herds that were under test in 1957 discontinued the service in 1958. Herds being sold or transferred to the Dominion Record of Performance testing for pure-bred cattle accounted for many of these herds.

The following graph has been prepared to show the very rapid increase in number of cows tested in recent years together with the substantial increase in production.



The increased number of herds and cows under test has again presented clerical problems. Testing of samples at the centres has been done promptly, without too much difficulty, due principally to the installation of new facilities and equipment.

Prompt return of herd record books monthly and the issuance of individual certificates of production are necessary if herd owners are to realize maximum benefits.

(a) Mail Order Testing

Two plans of mail order testing are available to herd owners throughout the province. Plan I is based on the daily weighing of each cow's milk and a monthly butterfat test. Plan II is based on a computed milk production from one day's weighing and a monthly butterfat test. Samples of milk under Plan I and Plan II are lifted by herd owners on the 15th day of each month. Samples are tested by Dairy Branch officials at testing centres and herd record books are checked, extended and returned by mail from the Dairy Branch office.

The following table shows the number of herds and cows tested under the mail order system during the past three years.

	No. of Herds			No. of Cows		
	1956	1957	1958	1956	1957	1958
Plan I	65	81	90	1,087	1,246	1,446
Plan II	138	156	191	3,033	3,377	4,140
Total	203	237	281	4,120	4,623	5,586

The average size of herd on the mail order system is 20 cows.

(b) Owner-Sampler Route Plan

This system of testing is offered in the Edmonton area. It differs from the Mail-Order system in that a full time fieldman visits each herd owner monthly picking up the milk samples which have been previously taken by the herd owner. There were seven routes in operation during the year with an average of 11 herds on each route. Herd owners make use of either Plan I or Plan II as aforementioned. The fieldman at the time of his visit eartags all heifer calves and makes up an identification card showing colour markings and eartag number. During the year considerable interest was evidenced by herd owners in requesting a permanent calf record. Those wishing to keep a permanent record were furnished with extra cards and assistance was given in setting up the calf record book by the fieldman. A total of 521 heifer calves were identified and eartagged.

Throughout the year scales were checked for accuracy and assistance given in anlyzing the herd records. A total of 12 new herds were put under test at which time samples were lifted by the fieldman and instruction on proper sampling procedure given. "Check-tests" were conducted at 8 farms. During the year a total of 880 farm visits were made by the fieldman.

The following table indicates the extent to which this system of testing has been utilized since it was first offered in June 1954.

	No. of Herds					No. of Cows				
	*1954	1955	1956	1957	1958	1954	1955	1956	1957	1958
Plan I	3	7	5	4	2	48	133	97	90	59
Plan II	10	34	57	63	75	285	1,282	2,062	2,327	3,064
Total	13	41	62	67	77	333	1,415	2,159	2,417	3,123

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*June 1, 1954 to October 31, 1954.

There has been an increase every year in the number of herds and cows tested under this system. It will be noted that all but 2 herds were tested under Plan II.

The average size of herd on the "Route Plan" system of testing was 40 cows as compared to 36 cows in 1957.

Testing Centres

Testing centres were in operation at Edmonton, Ponoka, Red Deer, Calgary and Lethbridge. Testing at the Edmonton centre was done by a full time laboratory technician assisted by the fieldman. At the other centres testing was done by the resident dairy inspector with assistance from part time clerical help.

The following table shows the number of tests conducted at each centre during the past two years.

Testing Centre	1957	1958
Edmonton	28,568	34,676
Ponoka	7,880	9,343
Red Deer	8,525	10,406
Calgary	4,375	4,314
Lethbridge*	559	2,982
Total	49,907	61,721

*Lethbridge centre commenced operation in August 1957.

The following table indicates the extent to which the two plans of testing have been utilized by herd owners and shows the average production under each plan, together with the provincial average for all cows on test. Comparable figures for 1957 are shown in brackets.

SUMMARY

	*Plan I		**Plan II		Total	
No. of herds under test	92	(85)	266	(219)	358	(304)
No. of cows under test	1,505	(1,336)	7,204	(5,704)	8,709	(7,040)
Av. no. of cows per herd	16.4	(15.7)	27.1	(26.0)	24.3	(23.2)
No. of cow years (T)	1,089	(936)	5,178	(4,193)	6,267	(5,129)
Av. production of milk lbs.	10,001	(9,626)	10,109	(9,438)	10,091	(9,472)
Av. production of butterfat lbs.	356.7	(338.5)	345.3	(322.5)	347.3	(325.4)
Av. test %	....	(........)	....	(........)	3.44	(3.43)

*Plan I—Daily weighing and monthly tests.

**Plan II—Computed records from one day's weighing and monthly tests.

(T) Herd averages on the basis of cow years. The total number of cows on test during the year is used in determining the herd average, except where new cows are placed on test, or a cow is sold or dies; in these cases only part of the year in which she produces is used.

From the table it will be noted that there was in increase of 54 herds and 1,669 cows over the year 1957. Average production of all cows on test shows an increase of 617 pounds of milk and 22 pounds of butterfat over 1957.

Reports and Competitions

Individual certificates of production were issued for all cows completing the necessary requirements respecting yields of butterfat and period of recording. Discontinuance of the "bar-diagram sheet" from the herd owners annual report has made it possible to issue certificates more promptly.

Annual reports are sent to all herd owners showing the total and average milk and butterfat production of the herd. District Agriculturists' offices are also furnished a copy of this report to assist them at the time of farm visits.

A total of 233 herds qualified for the "Honor Roll" in 1958. This is an increase of 84 herds over the previous year and represents 65% of the herds on the cow Testing Service. Of the 77 herds on the Route Plan system of testing, 66 qualified for the Honor Roll. The Honor Roll is a list of herds of 5 cows or more on test for a minimum of 8 months and producing over 300 pounds of butterfat.

A total of 49 herds had an average butterfat production of over 400 pounds.

Increased production and herd improvement was again encouraged through competitions. Prize awards for the 10 herds with highest average butterfat production in 1958 and the 10 herds showing the largest increase in butterfat production over the previous year are presented at the Alberta Dairymen's Convention.

Other Activities

The greatly increased number of herds and cows under test required a greater amount of time for supervision of the service, correspondence and checking than in previous years.

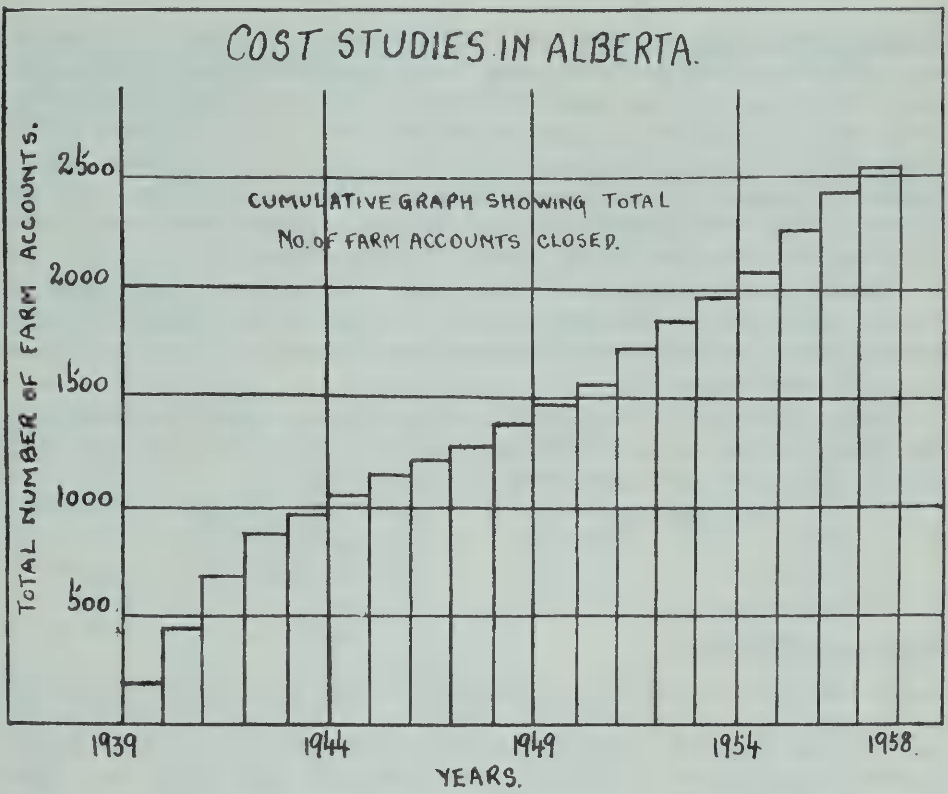
Early in 1958, in co-operation with the Animal Science Department of the University of Alberta, a study of the "low fat milk problem" was made in the Edmonton area. Feeding practices and milk tests were studied at the time of farm visits made during a three month period. Findings of this preliminary study have been encouraging and indicated the adverse affect of high barn temperature on butterfat production. A study of other factors which may affect butterfat test is planned for 1959.

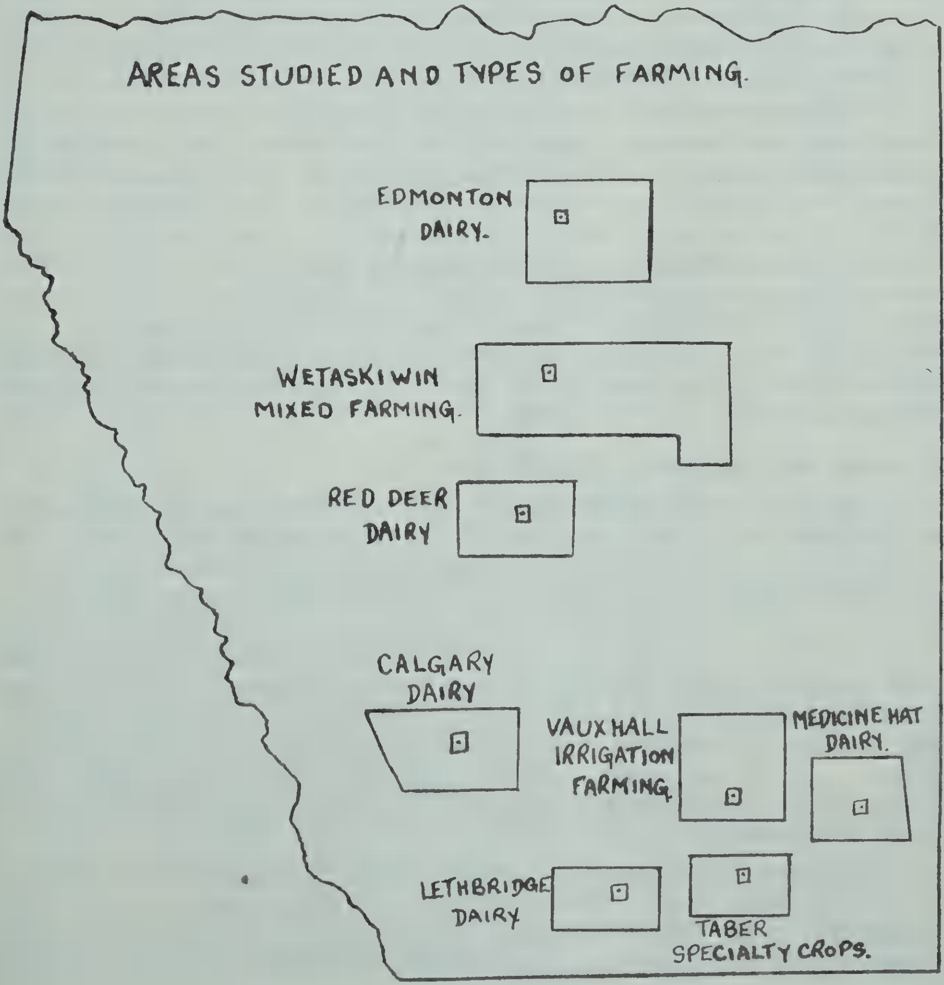
A total of 23 dairy bulls were purchased under the Cattle Improvement Policy and Livestock Listing Bureau Service by the Supervisor. Breeding stock and dairy cows were located for farmers referred to this office by district agriculturists. In addition to furnishing information on bull semen available to artificial insemination units in the province, the Supervisor attended 5 annual meetings of artificial insemination units.

FARM COST STUDIES

The past year showed increased demands for agricultural economics information. As the province becomes older this trend would be expected. However, the tempo has been increased by what is commonly called the "farm cost-price squeeze". This condition has been partly due to the disproportionate increase in farm operating costs in relation to that of farm receipts. Also it has been aggravated by the build-up of surplus farm produce, a steadily increasing technological change in farming methods and a rapid change over from a predominately agricultural economy to one of greater industrial degree. Cost of production studies are providing accurate and up to date information on the changes which are taking place.

To illustrate the cumulative number of farm accounts analysed and areas in which studies were conducted for the period 1939 to 1958, the graph and map appearing on the opposite page have been prepared. It will be noted that over 2,500 farm accounts were handled during this 20 year period. Many farms producing fluid milk have been under continuous study since the work first commenced. The map shows the type of study conducted in each area including such farm enterprises as fluid milk, inspected cream, manufactured milk, churning cream, mixed farming, irrigation farming and specialty crops under irrigation. During the first 5 year period the Economics Division, Canada Department of Agriculture carried the major portion of the studies with the Alberta


COST STUDIES IN ALBERTA.
CUMULATIVE GRAPH SHOWING TOTAL No. of FARM ACCOUNTS CLOSED.
TOTAL NUMBER OF FARM ACCOUNTS.
2500
2000
1500
1000
500
1939
1944
1949
1954
1958.
YEARS.


AREAS STUDIED AND TYPES OF FARMING.
EDMONTON DAIRY.
WETASKIWIN MIXED FARMING.
RED DEER DAIRY
CALGARY DAIRY
VAUXHALL IRRIGATION FARMING.
MEDICINE HAT DAIRY.
LETHBRIDGE DAIRY
TABER SPECIALTY CROPS.

Department of Agriculture and the University of Alberta co-operating. At that time the work was considered more in the nature of a short time survey designed to ascertain the cost of producing fluid milk and its relation to costs on other types of dairy farms. The need for continuous data on fluid milk farms became apparent as costs of production were used to establish fluid milk prices. Financial assistance has been supplied for all studies concerning fluid milk by the Board of Public Utility Commissioners.

During the year under review cost studies were continued on farms producing fluid milk for the four principal markets of the province and also for two groups of farms in the irrigated sections east of Lethbridge.

Accounts were closed on a total of 143 farms during the year requiring an estimated 336 farm visits. The classification and general location of these farms is indicated below:

Fluid Milk Farms		Irrigated Farms	
Edmonton	36	Taber Specialty Crops	25
Calgary	38	Vauxhall (without canning crops or sugar beets)	34
Lethbridge	13		
Medicine Hat	8		

Fluid Milk Studies

A report covering the previous year's operation was returned to each operator. It showed his position compared to the district average for income, organization and management levels. These reports, in addition to covering the complete farm operation gave input and output data for milk production costs. At the year end analysis of the records for the current year were nearing completion and these will go forward early in 1959.

Following the trend in other areas, interest in formula pricing of fluid milk is increasing. Basic data on this subject was provided at producer meetings. A committee consisting of the Supervisor of Farm Cost Studies, the Milk Administrator of the Board of Public Utility Commissioners and a representative from the Economics Department of the University of Alberta was set up to work out a formula covering a period of years to be tested for Alberta conditions. A trial formula was completed by the Supervisor and revised by the committee. It was then decided to work out a second formula using the years 1950 to 1953 as a base instead of the longer period of 1947 to 1952.

Canning and Specialty Crop Studies

The first study, known as the Taber Specialty Crop Study, was undertaken four years ago on 25 farms to examine some of the problems of the specialty crop growers. The pea growers in particular were most anxious for a study of the canning pea enterprise. It was anticipated that the study would continue for about three years. However, requests for a longer period were granted and the fifth year's results are now being collected. To study the canning pea enterprise adequately in relation to the total farm, necessitated the costing of sugar beets, canning corn or other enterprises. This approach, while requiring additional work, has established some basis data regarding the farm organization and its main components.

A second irrigation study on 34 farms at Vauxhall was undertaken two years ago. These irrigation farms produce grain and livestock rather than specialty crops under contract. Reports covering income, costs and efficiency for both of the irrigation studies were prepared for the benefit of the co-operators and other interested parties in the area.

Other Activities

The demand from extension workers for agricultural economics information covering both production and marketing continues to increase. Questions concerning values of land, feed and livestock for different areas are quite common. Records had to be analysed for yields of forage crops and grain as well as the production of various classes of livestock to furnish needed information.

The five year report covering the mixed farm study of the Leduc-Wetaskiwin area provided much useful information for extension workers. The function of correctly interpreting much of the data and in some cases attempting to project forward certain information from 1955, the last year of the study, became an important and difficult task of this division. Assistance in collecting and preparing data on farm management was given to the Extension Economist.

Assistance was given in the settlement of claims, involving land, livestock, buildings and equipment. Considerable consulting problems from various sources were handled by the Supervisor. Some examples were several meetings with members of the transport board regarding appraisals of farms being taken over by the new airport. The fluid milk and mixed farm studies made in and around the Leduc area provided accurate information in the solution of these problems. Other inquiries on basic livestock appraisal came from the Income Tax Department. Some liaison of work was carried out with the Department of Veteran Affairs. Information from the studies is again being made available to the University Agriculture Economics classes. In addition, the Supervisor is teaching a course in Farm Management listed as "Economics 75".

FROZEN FOOD LOCKER PLANTS

Officials of the Dairy Branch continued to administer the Frozen Food Locker Act and provided a service to this industry through inspection and instruction of all frozen food locker plants. During the past year there was a total of 1,158 inspections compared to 1,109 for the previous year.

The Supervisor visited all plants during the year, assisting operators in the planning of new slaughter houses and the remodelling of several locker plants to meet new business trends brought about by dwindling revenues from locker rentals. In many cases alterations enlarged and improved retail areas for fresh and frozen foods while other plants enlarged facilities for processing and sharp freezing.

One plant discontinued operations during the year and no new plants were established. There were 143 plants at the end of the year compared to 144 in 1957.

The following table outlines the trend of the locker plant industry since the Frozen Food Locker Act became effective in 1944.

Year	No. of Plants Operating	No. of Lockers Installed	No. of Lockers Rented	Percent of Lockers Rented	Average Lbs. Per Rented Locker
1944	34	8,966	....	No Record	....
1945	61	16,770	13,572	80.9	326.0
1946	83	22,421	18,640	83.1	308.3
1947	97	28,109	25,241	89.8	348.0
1948	118	35,571	32,616	91.7	359.2
1949	134	44,020	40,871	92.8	328.8
1950	141	48,647	43,802	90.0	305.2
1951	146	50,316	45,757	90.9	312.2
1952	148	51,617	48,617	94.2	353.3
1953	153	52,999	49,305	93.0	320.2
1954	154	51,984	46,560	89.6	316.9
1955	153	51,488	43,608	84.7	307.9
1956	148	49,304	40,159	81.5	320.5
1957	144	47,972	39,762	82.9	329.6
1958	143	44,196	32,992	74.6	324.9

It will be noted that the number of operating plants and available lockers increased rapidly until 1953 with a gradual decline since that time. This change was brought about by the increasing sales of home freezers.

The following tables show the amount and type of food products stored in lockers from 1944 to 1958 and also that processed for home freezers since 1953.

Year	Pounds Stored Lockers	Meat %	Fish %	Poultry %	Game Birds %	Big Game %	Cured Meats %	Lard %	Fruits %	Veg. %	Misc. %
1944					No Record						
1945	3,902,294	79.1	.8	6.4	.7	1.5	7.3	.5	1.9	1.7	.1
1946	5,171,026	75.7	1.0	6.6	.8	1.7	9.1	.7	2.3	1.7	.4
1947	7,782,419	74.4	.8	6.3	.7	1.5	12.0	1.2	1.3	1.3	.5
1948	10,353,430	75.7	.6	5.3	.7	.9	11.8	1.2	1.9	1.4	.5
1949	12,460,243	75.9	1.2	6.0	.6	1.8	10.1	1.1	1.3	1.2	.8
1950	12,895,363	75.3	.9	6.3	.6	.9	11.0	1.2	1.5	1.5	.8
1951	13,859,897	74.0	1.0	7.7	.6	.8	10.7	1.2	1.4	1.8	.8
1952	16,795,135	75.2	.8	6.7	.6	1.1	10.6	1.2	1.2	1.8	.8
1953	15,782,184	79.3	.7	6.7	.4	.4	8.1	1.0	1.0	1.8	.6
1954	14,919,055	81.0	.7	6.8	.4	.8	6.7	.9	.7	1.4	.6
1955	13,760,124	79.1	.4	6.8	.5	1.7	7.6	1.0	.6	1.8	.5
1956	12,792,131	78.7	.4	5.8	.4	2.9	7.6	1.1	.7	1.8	.6
1957	11,984,904	79.9	.4	6.7	.5	2.5	6.4	1.9	.6	1.5	.6
1958	10,639,199	79.9	.4	6.2	.5	2.9	7.9	1.1	.6	1.9	.6

PROCESSED FOR HOME FEEZERS

Year	Pounds	Meat %	Fish %	Poultry %	Game Birds %	Big Game %	Cured Meats %	Lard %	Fruits %	Veg. %	Misc. %
1953	1,534,919	76.5	1.2	1.3	.1	.1	4.0	.3	4.5	5.4	6.6
1954	2,299,791	83.8	.7	1.3	.0	.2	4.1	.3	3.0	3,6	3.0
1955	2,021,656	76.0	1.0	1.6	.1	.6	6.3	.5	5.1	4.7	4.1
1956	2,822,306	78.9	1.0	1.6	.0	.6	6.2	.6	4.3	3.5	3.3
1957	4,008,646	80.8	.8	1.4	.1	.7	5.4	1.1	3.8	2.8	3.1
1958	6,072,067	78.5	.9	1.7	.3	1.0	7.5	1.2	3.0	2.9	3.0

TOTAL VOLUME PROCESSED FOR LOCKERS AND HOME FREEZERS

Year	pounds	Year	pounds
1953	17,317,103	1956	15,614,437
1954	17,218,846	1957	15,993,550
1955	15,781,780	1958	16,711,266

The above tables indicate some decline in the total amounts processed since 1953. However, the decreased volume for lockers has been largely offset by substantial increases in the amount processed for home freezers which in 1958 amounted to over six million pounds. Figures indicating the volume processed for home freezers are not available prior to 1953.

The scoring of all plants for the Merit Award Competition and for Proficiency Certificates was again carried out by the dairy inspectors with the top plants in each district rescored by officials of the Edmonton office.

Winners of the Shields and Certificates were announced at the Annual Convention of the Alberta Quick Freeze Association which was held in Calgary in March 1958. Redi Food 'N' Freezers, Edmonton was the winner of Section A with more than 400 lockers, while Taber Frozen Foods at Taber was second with Home Provisioners of Calgary placing third. The Peace River Meat Co. of Sexsmith won Section B for plants with less than 400 lockers. Borden's Locker Plant, Hythe and Spoor's Meat Market, Rocky Mountain House placed second and third respectively.

Thirty-four operators were issued Proficiency Certificates for the year compared to 38 the previous year. These certificates are awarded by the Dairy Branch to those plants meeting rigid requirements for plant operations, sanitary processing and amount of service offered.

The following statistics are tabulated from monthly reports received from the operators and cover the 12 month period ending November 30, 1958. Statistics for the previous 12 months are included for comparison.

LOCKER PLANT OPERATIONS

	1958	1957
No. of Animal food plants	4	3
No. of plants in operation December 1st	143	144
No. of plants reporting during 1958	144	149
No. of lockers installed	44,196	47,972
Average number of lockers installed	307	322
No. of lockers rented December 1st	32,992	39,762
Percenage of lockers rented December 1st	74.6	82.9
Average lbs. of food stored per locker with complete service	334.2	311.3
Average lbs. of food stored per locker with incomplete service	182.4	185.6
Average poundage per locker—all plants	319.8	301.4
Average lbs. per locker on the basis of locker rented for 12 months	322.1	329.6
Inspections during the year	1,158	1,109

Milk Control Report

Submitted by the
BOARD OF PUBLIC UTILITY COMMISSIONERS
J. B. Moore, Administrator of Milk Control

Fluid milk consumption during 1958 registered gains in Calgary, Camrose, Edmonton, Lethbridge, Ponoka and Red Deer of 4.5%, 2.7%, 2.4%, 2% 4.6% and 6% respectively with losses of 10% and 1.3% in the Crow's Nest Pass and Medicine Hat Areas. Skim milk sales in the Calgary and Edmonton areas registered increases of 10.3% and 28.2%. While Lethbridge and Medicine Hat skim milk sales decreased slightly, this was possibly due to the introduction of a 2% butterfat product.

Production increased in all areas with the exception of the Crow's Nest Pass.

Licensed milk producers totalled 915, an increase of 7 over 1957.

Adjustments to producers were ordered amounting to over $1,900.00.

Applications received and granted were as follows:

Five day delivery system in Red Deer.

Introduction of one-half gallon paper container in Lethbridge and Medicine Hat.

Introduction of a 2% partially skimmed product in Lethbridge and Medicine Hat.

Introduction of aluminum hooded caps in Lethbridge and Medicine Hat.

Three day alternate delivery system together with the use of paper containers in Lethbridge and Medicine Hat.

The hauling of milk by bulk tank from Medicine Hat to Lethbridge and after processing, the return of the finished, bottled product to Medicine Hat by refrigerated truck.

The Board continued its active and financial support of both the Dairy Cost Survey and Milk Foundation.

Formula study is being continued using a new base period of 1950-53.

Report of the Poultry Branch

R. H. McMILLAN, Poultry Commissioner
G. R. Milne, Poultry Supervisor

Inspectors:

K. Darlington	West Edmonton	J. L. Plumley	Red Deer
K. H. Rowe	East Edmonton	W. Hutchison	Calgary
G. O. Johnson	Camrose		

GENERAL REVIEW

The accelerated expansion of the poultry production in the province noted the last few years evened off in 1958. The trend toward larger flocks and resultant specialization is evident among the established egg producers, while the marginal operators are dropping out. There has been a noticable increase in the numbers of specialized commercial egg producers who grade and market their product direct to retail outlets, thus by-passing local egg grading stations. Poult production increased 14.7% over that of 1957. However, the expected increase in fall marketings of turkeys did not materialize. Interest in turkey broiler production increased and a number of producers embarked on this new phase. Integration in varying degrees is becoming more common, particularly in broiler and turkey production.

Production of commercial eggs was reduced slightly in 1958 from the previous year which was a record. Considerable carry-over of the 1957 egg production was purchased by the Prices Support Board early in 1958. This Board was discontinued and the Prices Stabilization Board established. Since the inauguration of this latter board no eggs were purchased by the Federal government during 1958 as exports, mainly to Venezuela, removed any surplus. In May a revised schedule of wholesale price support for eggs was announced. The 2 cents per dozen increase at wholesale level did not affect producer price. Grade A Large only were supported.

Import controls and price support for turkeys continued in effect in 1958 as set out July of 1957. As a result of import controls the domestic price of turkey was above floor level and, therefore, support was not used. Because of keen competition, supply and demand turkey growers received 2 cents to 3 cents per pound more this year than in 1957. This keen competition of dealers resulted in the consumer paying 1 cent and 2 cents per pound less for the finished product.

Fowl marketings were reduced from 1957. As price support of fowl was dropped in March, returns to producers for fowl decreased by 5 cents to 7 cents per pound. The broiler meat market was also weaker than in 1957 due in the main to over production in Ontario. The resulting low prices in the east caused a weakening of local prices to compete with product imported from Ontario.

During 1958 a plan was again presented to regulate and control the marketing of commercial eggs in the province of Alberta under the Marketing of Agricultural Products Act, being Chapter 5 of the Statutes of Alberta, 1955 (2nd Session). The plebiscite was carried out in the period from August 6th to August 27th, 1958.

As any such plan does not become operative unless approved by 51% of the eligible registered voters and as only 40.62% voted in favor, the plan was declared defeated.

	1957	1958
Total Listed Registration	28,359	26,410
% Ballots Cast	61.96%	57.93%
% in Favor of Plan	48.41%	40.62%

FLOCK APPROVAL

The inspection of chicken and turkey hatching egg supply flocks continued to be a major project of the Poultry Branch. To complete the greater part of this work between September and December, sixteen temporary fieldmen are employed. The chicken hatching egg supply flocks are segregated into those supplying hatching eggs for commercial egg flock replacements and those supplying hatching eggs for broiler chick or meat production.

TABLE I

	Egg Production Matings			Broiler Production Matings		
	No. Flocks	No. Birds	Av. Size	No. Flocks	No. Birds	Av. Size
1956	991	343,538	346	65	25,896	398
1957	915	342,009	373	98	46,510	474
1958	752	304,645	405	92	48,861	531

All hatching eggs set in licensed hatcheries must be from inspected and pullorum disease free flocks.

Table II summarizes the number of flocks and birds inspected and tested for pullorum disease.

TABLE II

SUMMARY OF FLOCK APPROVAL 1953-1958
(First Test on Completed Flocks)

Year	Method of Testing	No. of Flocks	No. of Birds	Av. Size of Flock	% Reaction
1952-53	Whole Blood	1,078	302,599	280	.229
1953-54	" "	1,039	307,866	296	.242
1954-55	" "	1,043	319,501	309	.211
1955-56	" "	989	318,492	322	.221
1956-57	" "	1,056	369,434	349	.098
1957-58	" "	1,022	404,233	394	.043

Rating of hatching egg supply flocks, inaugurated in 1957, continued in 1958 and a general improvement was noted.

		% of Flocks	
	Rating	1957	1958
Group I	Over 80%	10%	14%
Group II	70-79%	44%	56%
Group III	60-69%	38%	28%
Group IV	Under 60%	8%	2%

Flock owners in Group IV were notified that they would not be permitted to ship hatching eggs until conditions on premises were improved. A number of these did bring their premises up to satisfactory standards for acceptance as a supply flock for hatching eggs.

Table III summarizes total turkey flocks and turkeys inspected and tested.

TABLE III

SUMMARY OF TURKEY APPROVAL 1953-1958

Year	No. of Flocks	No. of Birds	Av. Size of Flock
1952-53	79	15,721	199
1953-54	65	16,677	256
1954-55	77	22,892	297
1955-56	52	22,416	431
1956-57	48	28,309	590
1957-58	38	28,486	741

The number of flocks inspected decreased by 10 flocks, while the number of birds tested equalled 1957.

TABLE IV

SUMMARY OF FLOCK APPROVAL BY BREED 1957-58

Chickens

Breed	No. of Flocks Tested	No. of Birds Tested
White Leghorns	293	137,325
New Hampshires	193	72,338
Light Sussex	206	67,813
White Rocks	158	63,968
Barred Rocks	66	20,821
Rhode Island Reds	40	17,058
Black Australorps	26	8,435
All Other Varieties	40	16,475
Total	1,022	404,233

Light-heavy crosses are the most popular matings, accounting for 22.9% of matings with S.C. White Leghorn, Light Sussex, and heavy crosses following at 17.3%, 15.4% and 11.9%, respectively. Broiler production matings are 76% New Hampshire and 24% White Plymouth Rock.

Turkeys

Breed	No. of Flocks Tested	No. of Birds Tested
Broad Breasted Bronze	36	27,626
White Lancaster	1	229
Beltsville Whites	1	631
Total	38	28,486

LICENSING AND BONDING OF DEALERS IN POULTRY AND POULTRY PRODUCTS

A. **Produce**—The Poultry Branch administers regulations respecting the Licensing and Bonding of Dealers in Poultry and Poultry Products under the Alberta Live Stock and Live Stock Products Act. Every person carrying on a business as a dealer must obtain a license to conduct such business. As of January 1, 1956, as protection to producers, all wholesale dealers were required to furnish a surety bond in favor of the Minister ranging from $1,000 to $10,000, depending upon the volume of business conducted.

TABLE V

Year	First Receivers	Reg. Egg Grading Stations	Reg. Poultry Processing Stations	Reg. Poultry Eviscerating Stations	Reg. Poultry Grading Stations	Temporary Grading Stations
1953	120	154	20	7	4	8
1954	88	152	21	9	6	7
1955	70	146	21	9	6	6
1956	46	140	21	8	8	4
1957	33	141	22	10	8	3
1958	21	144	24	10	9	3

B. **Hatchery**—The Poultry Branch administers regulations respecting the Production and Sale of Chicks under the Alberta Live Stock and Live Stock Products Act. All commercial and custom hatcheries with an incubator capacity of 1,000 eggs or more are licensed. Since 1951 commercial hatcheries are required to furnish a surety bond, for protection of hatching egg producers, in favor of the Minister ranging from $2,000 to $5,000, depending upon incubator capacity.

TABLE VI

DEVELOPMENT OF HATCHERIES

Year	Breeder Hatcheries	Commercial Hatcheries	Egg Setting Capacity
1953	10	48	4,397,743
1954	11	49	3,917,388
1955	12	49	4,103,088
1956	14	51	4,466,034
1957	13	52	4,698,818
1958	10	50	4,453,850

TABLE VII

CHICK PRODUCTION

Year	% Hatchability	Chicks Hatched	Chicks Not Sold	Chicks Exported	Chicks Imported	Chicks remaining in Province
1953	69.2	7,261,434	397,280	241,384	454,757	7,077,545
1954	70.4	8,466,258	434,060	318,474	853,676	8,567,400
1955	69.3	8,212,591	497,055	298,997	369,423	7,785,962
1956	69.0	9,495,784	577,267	279,728	346,574	8,985,363
1957	69.05	11,167,818	630,880	365,290	244,848	10,416,496
1958	69.8	11,454,597	727,795	581,018	310,951	10,456,735

TABLE VIII

CHICK PRODUCTION

For Egg Production			For Broiler Production		
1958	1957	% Change	1958	1957	% Change
8,440,888	9,522,834	—11.3%	3,013,709	1,472,188	+104.7

Poult production in Alberta hatcheries again reached an all time high in 1958 of 1,162,178 poults, an increase of 15.4% over 1957.

TABLE IX

POULT PRODUCTION

Year	Eggs Set	Eggs Imported	Poults Hatched	% Hatchability	Poults Imported	Poults Exported	Poults on Alberta Farms
1954	1,133,001	533,144	606,118	53.5%	227,689	8,383	825,424
1955	1,070,690	374,573	538,014	50.3%	64,994	6,905	596,103
1956	1,535,611	450,000	809,459	52.7%	197,770	8,280	998,949
1957	1,763,449	592,150	1,006,734	57.1%	83,461	39,906	1,050,289
1958	2,011,546	924,591	1,162,178	58.8%	43,515	90,564	1,115,129

Importation of breeding stock in the form of U.S. franchises is increasing. This past season there were 21 different franchise chicks offered for sale as compared to 14 in 1957 and 5 in 1956. It is estimated that one million egg production chicks and two and one-half million broiler production chicks were sold in Alberta this past year.

TABLE X

IMPORTATION FROM THE UNITED STATES

1958

	Chicken				Turkey			
	From Egg Production Matings		From Broiler Production Matings		From Meat Production Matings		From Broiler Production Matings	
	Eggs	Chicks	Eggs	Chicks	Eggs	Poults	Eggs	Poults
Jan.	......	......	30,240	680	33,720	......	......	......
Feb.	8,640	8,200	9,000	1,914	184,600	......	......	......
Mar.	50,080	14,797	5,400	545	214,200	......	......	......
Apr.	......	15,275	16,200	585	199,800	300	......	......
May	......	......	11,520	675	76,920	600	3,200	......
June	......	2,500	24,120	......	32,840	300	......	......
July	......	148	2,160	3,670	......	800	......	......
Aug.	......	......	7,560	1,125	......	......	......	......
Sept.	......	......	10,080	3,340	......	......	......	......
Oct.	......	......	16,560	405	......	......	......	......
Nov.	......	......	9,000	200	......	......	6,200	......
Dec.	......	......	......	5,875	11,600	......	23,600	......
Total	58,720	40,920	141,840	19,014	753,680	2,000	33,000	......

THE POULTRY INDUSTRY

Egg production in 1958 decreased approximately 8% to an estimated total of 47,672,000 dozen eggs. Egg marketings at registered egg stations are indicated in Table XI. These receipts represent about 43% of the total production, the balance being sold direct by the producer, or consumed. Weighted egg price to producers remained at the same level in 1958 as in 1957.

TABLE XI

	Egg Receipts at Registered Egg Grading Stations (30 dozen cases)	Weighted Egg Price to Producers by Grade Per Dozen
1954	531,433	30.2 cents
1955	548,215	31.8 cents
1956	597,380	31.9 cents
1957	676,709	26.4 cents
1958 (Est.)	648,440	26.1 cents

Trends in marketing of poultry meat and turkey meat are indicated in Tables XII and XIII.

TABLE XII

POULTRY MARKETINGS THROUGH REGISTERED STATIONS

(Pounds)

Year	Chickens Under 4 lb.	Chickens Over 4 lb.	Fowl	Turkeys	Ducks	Geese
1954	1,085,638	1,281,180	2,352,621	7,039,110	83,397	321,302
1955	1,726,485	1,316,711	3,148,113	5,904,921	97,205	473,119
1956	3,261,360	1,747,498	3,418,065	9,215,831	80,277	333,901
1957	4,129,761	1,987,221	4,220,058	10,656,603	70,905	565,705
1958	4,383,000	2,096,000	3,860,000	9,651,000	45,000	453,000

TABLE XIII

POULTRY EVISCERATED IN REGISTERED STATIONS

(Pounds)

Year	Chickens Under 4 lb.	Chickens Over 4 lb.	Fowl	Turkeys	Ducks	Geese
1954	....	934,893	287,056	1,101,497	6,394	34,830
1955	1,583,976	623,686	1,001,896	2,855,950	15,386	79,478
1956	2,682,148	1,158,402	1,575,042	6,297,954	30,836	116,455
1957	4,363,666	1,559,538	3,181,891	6,881,831	56,643	271,931
1958	3,821,000	1,245,000	2,312,000	7,481,000	25,000	294,000

The laying hen numbers and market turkey numbers on Alberta farms is indicated in Table XIV.

TABLE XIV

FARM POPULATION

Year	Laying Hens	Turkeys
1954—Inter census revision not available	2,650,000	650,000
1955—Inter census revision not available	2,850,000	570,000
1956—Census (D.B.S.)	2,642,494	820,154
1957—Census (D.B.S.)	2,900,000	860,000
1958—Estimate (D.B.S.)	3,010,000	975,000

ALBERTA RANDOM SAMPLE TEST

The first Alberta Random Sample Test was completed on August 13, 1958. This 500 day egg production test was set up to evaluate and compare breed and strain crosses of poultry that are available to the Alberta farmer.

Nineteen applications for entry were received for the first test from breeders in Western Canada and the United States. As accommodation was limited to ten entries, applications were accepted first from Alberta breeders, and then from Canadian and American breeders based on their volume of chick sales in Alberta. Each entry consisted of 30 dozen hatching eggs from which a maximum of 100 pullets were tested.

Housing, management and feeding practices are kept as uniform as possible throughout the test buildings, so that when differences show up between entries, these differences may be attributed mainly to the genetic make-up of the entry. The following table indicates the performance of the entries in some of the economic factors tested for:

TABLE XV

FIRST ALBERTA RANDOM SAMPLE TEST

Entrant	Egg Prod. Per Hen Housed	% Grade A Large Eggs	% Laying House Mortality	Lbs. Feed Per Doz. Eggs	Net Income Per Hen Housed
1	221.6	51.4	11.4	4.9	$1.88
2	198.6	60.2	7.0	5.5	1.81
3	157.4	48.1	41.0	5.5	.65
4	225.7	58.2	9.0	4.6	2.40*
5	207.0	44.7	21.0	4.6	1.63
6	197.9	69.3	4.0	5.2	2.21
7	216.8	54.0	13.0	4.5	2.27
8	168.4	47.2	16.0	6.2	1.00
9	233.1	58.3	13.0	5.1	2.20
10	198.6	46.6	11.0	4.9	1.58
Average	201.2	54.1	14.8	5.1	1.76

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*Highest income attained by an Alberta breeder.

Detailed reports were forwarded to the entrants at three month intervals, and the final report was distributed to a large mailing list and was made available for publication in poultry journals.

The second Alberta Random Sample Test commenced on August 28, 1958. Facilities were expanded to accommodate an eleventh entry. Twenty-four applications were received for this test, and those selected were accepted on the same basis as the first Test.

POULTRY SHOWS

The Toronto Royal Winter Fair was held again in November with entries of dressed poultry by producers and by commercial firms. Alberta entries made a very creditable showing, although numbers of entries were reduced as some difficulty was experienced with freezing. Entries are pre-selected and only those of merit are forwarded. This dressed show is considered the show window of the industry and exhibiting there is of great value to Alberta producers as a whole, as Eastern Canada is our major market of surplus poultry.

ROYAL WINTER FAIR POULTRY PRODUCTS SHOW
(Alberta Awards)

	1956	1957	1958
Championships	1	1	......
Firsts	31	18	5
Seconds	7	15	12
Thirds	1	2	......
Total	40	36	17

The Alberta Provincial Poultry Show was held in Calgary in December. Increased entries were noted in the dressed classes and the live turkey and standard bred poultry sections.

The annual Challenge Trophy awarded by the Alberta Department of Agriculture in the Egg Grading Station Competition, Group B, was awarded to Mr. G. Gustafson, Granum, Alberta.

BRANCH ACTIVITIES

The Poultry Commissioner attended annual meetings of the Canadian Produce Association (Western Division), and of the Canadian Hatchery Federation. He also attended the 1958 Fact Finding Conference for Poultry Processing. This meeting is of paramount interest to those concerned in processing and handling of poultry and poultry products as information presented and discussed is invaluable in this rapidly developing phase. Some 20 Alberta members attended.

The Poultry Commissioner and/or members of the Poultry Branch staff attended meetings of poultry producers, hatching egg shippers, turkey breeders, produce dealers, feed dealers, hatchery operators and committees dealing with various phases of the poultry industry.

Of the total number of hatching egg and turkey breeder flocks, 98.8% were reinspected during the year. Members of the staff made 376 service calls to poultry producers requesting assistance and attention. Forty-two meetings and short courses, as arranged by the Extension Branch, were attended by members of the Poultry Branch staff. The annual Short Course for hatcherymen, sponsored by the Poultry and Veterinary Services Branches, was held in November. Interest in this meeting is keen, as indicated by the large attendance of those engaged in this field.

A conference of members of the Poultry Branch and temporary fieldmen was held in September. Addresses were given by Dr. Robblee, University of Alberta; Mr. E. Chambers and Mr. J. Raffa, Federal Poultry Branch; Dr. Catt; Dr. Bigland; and the Poultry Commissioner.

A discussion and demonstration on artificial insemination of turkeys was held in December. This was felt necessary as more turkey breeders are resorting to this method to improve fertility and hatchability of their flocks.

A poultry grading session was also held in December for members of the Poultry Branch staff.

Report of the Fur Farm Branch

R. W. GILLIES, Fur Farm Supervisor

General

The past year in the fur farming business has been reasonably satisfactory to those who have continued in the raising of fur-bearers in captivity. The mink market has been fairly stable, and this fact, along with a plentiful supply of local feed, has resulted in Alberta mink farmers having a profitable season.

Mink still continues as the fur fashion leader, and the great number of pelts produced throughout the world have been satisfactorily merchandised. Alberta exported 129,008 mink for an estimated value of $2,273,840.00. This is 25,445 mink less than the year 1957, and is due to the number of ranchers that ceased operation. Signs are in evidence that those remaining in the mink business have again increased their basic breeding herds and the lost volume of pelts will soon be regained.

Standard mink pelts have made a sharp gain in popularity and in pelt returns. A number of Alberta mink farmers were successful in topping some of the sales with their standard mink pelts.

Extension Work

(1) Field Days

Six exceedingly good field days were conducted this season—three more than last year. Field days started off in Calgary, then moved to Edmonton, Lac La Biche, Canyon Creek-Widewater, Faust-Joussard, and Calling Lake. The interest at all locations was very keen, and the educational programme presented was well accepted and appreciated.

Evening meetings followed by social gatherings were held after each field day. Attendance at these events was the best and most enthusiastic since my tenure of office.

Mr. Cecil Johnstone of Hudson Bay Raw Fur Sales Co., Montreal, acted as judge and feature speaker. He was assisted in Calgary and Lac La Biche by O. Muckleston of Edmonton, Dave Johnstone of Bowness at Edmonton, and George Wilson, Provincial President, at Canyon Creek and Faust. John White of Hudson Bay Raw Fur Sales Montreal, and John Ross of Hudson Bay Raw Fur Department Edmonton, judged the mink at the Calling Lake field day. Calling Lake was included in the field day tour for the first time this year and proved to be of real benefit to these rather isolated mink breeders.

The Veterinary Services Branch played a major part in the field day programme. Dr. G. Wilton presided at Calgary, and Dr. H. N. Vance participated in the programme at the northern meetings.

The Fur Farm Supervisor acted as chairman at meetings and directed the field day programme. Many pertinent problems on mink nutrition, genetics, disease, and proper handling of pelts were discussed—with some demonstrations given. Colored slides were used to illustrate many of the topics discussed.

The Alberta Chinchilla Breeders held a Provincial Field Day at the Lacombe Experimental Farm Pavilion on September 7, 1958. This was the first time that a Provincial Chinchilla field day was held and it proved very successful.

(2) **Office Extension Work**

Ranch inspection and personal visits were extended by the Fur Farm Supervisor and advice and assistance rendered whenever possible. Requests for information on mink, nutria, chinchilla, rabbits, etc., were answered through the Branch Office. Pamphlets and bulletins are available on various fur farming subjects. A number of new, timely, departmental bulletins, were issued during the summer and fall.

(3) **Fur Breeders' Associations**

Fur Breeders' Associations throughout the Province continue active. Assistance was rendered to reorganize the Faust-Joussard Fur Breeders' Association and in the establishing of a new Association at Calling Lake. The Supervisor assisted in arranging programmes at a number of local association meetings during the year.

The Annual Meeting of Canada Mink Breeders' Association was held in Edmonton on September 17th, 18th and 19th. The Fur Farm Branch assisted in the planning of this meeting and it was a pleasure to have fur farmer associations from all over Canada and the U.S.A. visit our Province. Canada Mink Breeders continue to do a very efficient job of conducting the business on behalf of Canadian mink farmers. Lindsay French of Bowness, Alberta, was appointed President at this year's annual meeting.

The Alberta Fur Breeders' Association produced and published three "Fur Bulletins" this year.

(4) **Live Animal Show**

The Alberta Provincial Fur Breeders' 21st Annual Live Mink Show was held in Calgary on December 10th and 11th, 1958. Due to the report of Virus Enteritis in British Columbia the number of exhibitors was reduced and it resulted in an all Alberta Show. Three hundred and fifty-four mink were placed on the judging table by seventeen of Alberta's most progressive mink farmers.

Maurice Stockner, internationally known mink rancher from Missoula, Montana, judged the show. He was assisted by John Ross of the Hudson Bay Raw Fur Department, Edmonton.

The Alberta Chinchilla Breeders' Association held an Alberta and Prairie Regional Show in the Jubilee Auditorium in Edmonton on February 27th and 28th, 1958. This show was followed by National Chinchilla Breeders' Annual Convention.

Health

The health report of fur-bearing animals will be fully covered in the Veterinary Services Branch Annual Report. Five cases of distemper have been reported in Alberta this year.

The general health of fur-bearers in this Province during the past season has been exceedingly good, which is a credit to the general good ranch management.

"Virus Enteritis" a dread disease of mink has recently been diagnosed in the Province of British Columbia. Alberta is still free of this disease, but due to its close proximity, a warning to Alberta fur farmers has been issued to keep a constant vigilance, and to make sure all casualties are sent to Veterinary Laboratory for early pathology reports.

Feed

The feed situation in Alberta has been very satisfactory. The northern lakes have produced well and the decrease in mink production in some of these areas has made the available mink feed more plentiful and more reasonably priced. Chicken waste has been utilized successfully around the Edmonton and Calgary districts. The recent legislation allowing the use of Diethylstilbestrol implants in chickens, may make this a hazardous source of mink food.

Marketing

The fur trade in the year 1958 has absorbed huge volumes of ranch mink pelts at reasonable prices. The early fur sales of December, 1958, have opened quite firm in most color phases, and if maintained, should be encouraging to the fur farmer.

Chinchilla pelts merchandised at moderate prices and in limited numbers.

Mura, a rodent developed in Germany and established in Alberta in the fall of 1956, has not been introduced to the fur trade as yet. This industry, since the sudden death of the owner is in jeopardy and may not be able to continue.

FUR FARM STATISTICS FOR YEAR ENDING AUGUST 31, 1958

NUMBER OF ANIMALS DECLARED ON FUR FARMS IN ALBERTA 1957-58

Kind of Animal	Total No. of Animals	Av. Value Per Animal Sept. 1957	Total Valuation
Mink, Standard	31,114	$ 14.50	$ 451,153.00
Mink, Mutation	148,639	18.00	2,675,502.00
Fox	117	7.00	819.00
Marten	2	10.00	20.00
Chinchilla	3,354	13.00	43,602.00
*Nutria	63	5.00	315.00
*Mura	20,000	2.00	40,000.00
	203,289		$3,211,411.00

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*Market price not established (estimated pelt value).

NUMBER OF ANIMALS PELTED ON FUR FARMS IN ALBERTA 1957-58

Kind of Animal	Total No. of Animals	Av. Value Per Animal Fall, 1957	Total Valuation
Mink, Standard	23,140	$ 14.50	$ 335,530.00
Mink, Mutation	105,290	18.00	1,895,220.00
Fox	65	7.00	455.00
Marten	nil	....	....
Chinchilla	633	13.00	8,229.00
Nutria	nil	....	....
Mura	2,900	2.00	5,800.00
	132,028		$2,245,234.00

NUMBER OF LIVE ANIMALS EXPORTED FROM ALBERTA 1957 58

Kind of Animal	Total No. of Animals	Av. Value Per Animal	Total Valuation
Mink, Standard	13	$ 55.00	$ 715.00
Mink, Mutation	565	75.00	42,375.00
Chinchilla	29	100.00	2,900.00
	607		$ 45,990.00

NUMBER OF ANIMALS RETAINED FOR BREEDING STOCK IN ALBERTA 1957-58

Kind of Animal	Total No. of Animals	Per Animal Dec. 31/57	Total Valuation
Mink, Standard	7,961	$ 14.50	$ 115,434.50
Mink, Mutation	42,784	18.00	770,112.00
Fox	52	7.00	364.00
Marten	2	10.00	20.00
Chinchilla	2,692	13.00	34,996.00
Nutria	63	5.00	315.00
Mura	17,100	2.00	34,200.00
	70,652		$ 955,441.50

FUR FARM LICENSES 1957-58 SEASON

Mink	341
Mink and Marten	1
Mink and Fox	5
Fox	2
Chinchilla	99
Nutria	17
Mura	1
	466

Report of the Water Resources Branch

F. L. GRINDLEY, Director of Water Resources

R. E. Bailey, Chief Engineer
J. L. Reid, Supervisor, Hydroelectric Development
John Mould, Supervisor of Irrigation and Drainage
A. G. Underhill, District Engineer, Calgary
R. J. Knight, District Engineer, Lethbridge
R. L. Francis, Construction Engineer, S.M.R.D.
E. T. Dean, Construction Engineer, B.R.D.
Hydraulic Engineers:
Walter Solodzuk W. R. Bishop
B. L. Potter C. E. Wilson
A. E. Murray, Office Engineer
D. E. Bowman, Groundwater Technician

General

Runoff in the spring of 1958 throughout the Province of Alberta varied considerably depending on the location. In the Peace River area of northern Alberta the runoff was extremely high. Many lakes and sloughs, which during former years had decreased considerably in size and content, were replenished to the point of overflowing. Drainage and flood control works were damaged severely in some instances and a considerable number of municipal bridges and culverts were washed out entirely. Bear Creek, which flows through the City of Grande Prairie, rose to the point where families living along the boundaries of the creek had to be evacuated.

The Town of Peace River suffered two severe floods originating from Pat's Creek. One flood was caused by the sloughing of part of the Peace River hill into the creek bed causing the creek to be dammed. When this dam overtopped and washed out, a great surge of water was let down onto the town. The second flood was caused by some culverts under a very high road fill becoming frozen and clogged with ice. The water rose behind the fill until it flowed over the top, at which point the entire fill gave way and the impounded water rushed down onto the town. This caused a considerable depth of water to run down the main street of Peace River Town resulting in damage to stores and homes.

In central and particularly southern Alberta the spring runoff was for the most part orderly and very little flooding occurred. In some local areas, however, the runoff was extremely high and some damage did occur. In the vicinity of Cluny, east of Calgary, the runoff was one of the highest on record.

The season, in general, was a dry one although in southern portions of the province rains did come in sufficient time to prevent what otherwise would have been a complete crop failure due to drought. Agricultural products in northern Alberta also suffered from lack of moisture. Generally speaking, Alberta experienced a relatively warm, dry fall season with soil moisture below normal.

The Water Resources Branch undertook an extensive and varied program of work during the 1958 season. The maximum compliment of staff employed during the year was 187. This staff consisted of the following:

Senior Engineers	6	Cat Operators	12
Project Engineers	9	Dragline Operators	1
Field Engineers	6	Patrol Operators	1
Instrumentmen	33	Truck Drivers	4
Rodmen	44	Labourers	21
Chainmen	20	Mechanics	1
Draftsmen	3	Servicemen	1
Accountants	2	Carpenter Helpers	2
Office Personnel	8	Cooks	6
Construction Superintendents	2	Caretakers	1
Construction Foremen	4		

The work in general consisted of the construction of flood control and drainage works in the Peace River area, flood control works on the Pembina River, investigation of upstream headwater storage on the South Saskatchewan River basin, the construction of drainage works and numerous miscellaneous jobs on the irrigation projects in southern Alberta. A number of smaller inspections were made for farm and municipal drainage problems. As was the case last year, many municipalities took advantage of the fifty-fifty government financial assistance policy for drainage works.

During the course of the year's work the following approximate quantity of surveys was carried out:

Levels	2,470 miles
Transit	1,180 miles
Canal cross-sections	95 miles

The above includes the survey and plotting of topography contours for 20,000 acres in the area and the establishing of horizontal and vertical control for aerial photography mapping over an area of 1,260 square miles.

General Inspection Services

Throughout the past year some 340 inspections were made of drainage problems, a decrease over last year of 24%. This decrease is understandable as the province experienced a below normal year with regard to precipitation. Part of the decrease can also be attributed to the amendment of Section 244 of The Municipal Districts Act. Under the original Section 244 a ministerial order was made from the recommendations of a Water Resources engineer and this order was imposed upon the farmer or the municipality. Under the amended section reconciliation is encouraged at a local level. If, however, in the opinion of the complainant the municipality's decision with regard to the problem is unfair, he may submit his complaint in writing to a judge of the District Court instead of the Minister, and if necessary the matter is pursued further in the courts. The Water Resources engineering staff still make inspections of these complaints, but do so now in an advisory capacity. These inspections are made without charge and are worthwhile, as it is often found that a few levels taken by the engineer clarifies the situation and prevents a costly court action.

Legislation

An office consolidation of The Water Resources Act was printed in 1958. In addition we now have our own regulations governing the application of the Act to Water Resources and Water Power.

Prairie Provinces Water Board

Alberta was granted a reservation for a diversion of a maximum in any one year of 600,000 acre feet of water from the Red Deer River and a maximum of 300,000 acre feet of water from the Clearwater River but with a total maximum diversion in any one year from both rivers of 700,000 acre feet. This reservation affirms an understanding which existed that this amount of water would be made available for the William Pearce Scheme.

The Irrigation Study Committee

On September 19, 1958 a comprehensive report was submitted to the Government by the Irrigation Study Committee. This thirty-page report has been printed and it is not necessary to comment on it here.

Revenue from Reclamation Projects

The crop yields and agricultural returns on the irrigated lands were excellent in 1958. The same remark applies to the drainage districts operated in central and northern Alberta. It is quite safe to say that cash returns in 1958 on water development projects was the best on record.

River Regime

There were no serious floods or damage to river training works in the province in 1958. Violent spring runoff occurred in the Peace River area.

Special Areas Projects

The Irrigation Advisory Committee held meetings to consider ways and means of utilizing local runoff to the best advantage. The Irrigation Study Committee made the following comment—"Stockwatering projects or small scale projects which can provide a farmer in a dry or semi-dry area with the protection of a limited acreage of irrigated land at reasonable cost will be a good investment for the farmer and the country." In line with this thinking, an agreement has been reached with Ducks Unlimited to proceed with a backlog of projects of the type that meets with the approval of the Irrigation Study Committee. These projects are on Crown lands. Ducks Unlimited and the provincial government will share the construction costs on a fifty-fifty basis. The projects could be described as intermediate-sized projects which would each conserve an average of 100 acre feet of water.

Expansion of Hydrometric Service

An agreement was drawn up between the Government of Canada (Department of Northern Affairs and National Resources) and the Government of Alberta apportioning the costs of hydrometric measurements between the two parties to the agreement. The cost of performing this essential service has been steadily increasing. The previous arrangement was not satisfactory and did not provide for a fair division of cost. The new agreement also covers the construction costs of new hydrometic stations that may be established for the province from time to time. Many of the proposed new stations will be in the Athabasca and Peace River drainage basins.

The Brazeau River Hydroelectric Site

Some consideration has been given to this project, the site of which is located 100 miles southwest of Edmonton. Downstream benefits to the City of Edmonton by providing increased flow in winter will be very valuable, especially in the future. There has been a steady increase in the use of water in the Edmonton area including water main extensions to outlying areas. In addition to this there has been a steady increase in the use of water for condenser cooling water due to increases in power output at the city plant. It may be necessary for the city to construct a weir just below the water intake.

Water and the Oil Industry

The use of water by the oil and gas industry largely goes unnoticed. The oil industry needs large quantities of water for refining and scrubbing plants and also for repressuring the oil fields by water injection into the oil bearing strata. Needless to say, the homes of oil workers are nearly all served with water either from surface water supplies or ground water. Exploration and drilling crews all require water in some degree for their operations.

The Wenner-Gren Proposal on the Peace River in B.C.

While reports on engineering progress on this proposal have not been finalized, there seems to be a growing interest in this scheme and its potentialities.

Alberta is interested in the downstream benefits that would accrue from a large increase in winter flow. These benefits would extend all the way down-river to Slave Falls at Smith and beyond into the Northwest Territories. Consolidated Mining and Smelting Company is investigating the possibility of developing a part of the Slave Falls site. At the moment the electrical demands in the Peace River area of Alberta are taken care of by diesel or gas turbine installations.

It has been estimated that it will take seven years for the reservoir at Hudson Hope (Rocky Mountain Trench) to fill up and during this interval Alberta would require water for riparian use. The Smoky River enters the Peace just above the Town of Peace River and flow in the Smoky River will take care of requirements below this point.

Water Supply

The water supply to irrigation and water power development works in 1958 was entirely adequate. There were no complaints of pollution during the year. Below normal summer precipitation occurred in the east central area and in the fall months the less than average precipitation was in evidence in many areas of the province. The value of dams and dugouts for stockwatering in 1958 was never more in evidence.

On the matter of water supply to irrigation projects it is evident that we take it for granted in Alberta that we will always have enough water. The following comments from U.S.D.A ..brochure No. 2002 on Water Conservation is very pertinent: "You can usually find out how much irrigation water you can get for a coming season before it is time to plant your crops . . . If advance reports (from snow surveys) show that the water supply for your area is going to be short you should plan accordingly. You may wish to plant crops that do not require so much water; or you may wish to leave a part of the land fallow for the season . . . . . ". We can be thankful that this has not happened here.

DRAINAGE DISTRICTS

In 1958 a new drainage district known as the Big Hay Lake Drainage System was organized and constructed. Earlier in the year a survey was made to determine the cost of extending the main ditch farther into Big Hay Lake. During the summer this extension was constructed by the District and it was learned from the Chairman of the Board of Trustees that nearly every farmer on the lake had experienced a good crop of hay for the first time since the lake bed was flooded.

In the report of last year it was mentioned that this scheme had its outlet in Bittern Lake which in turn has no outlet. Observations were made of the lake periodically and it was found that the lake receded during the summer. This would indicate that the evaporation loss from the lake was more than flow received from Big Hay Lake. A different picture may result during the wet cycle therefore observation will continue throughout 1959.

The following table gives the pertinent details of each district.

Drainage District	Date of Formation	Total Area in Acres	Acres Benefitted
Holden	April 15, 1918	50,560	12,430
Dickson	April 22, 1919	15,360	2,880
Daysland	June 19, 1919	74,720	15,000
Hay Lakes	February 17, 1922	9,600	2,390
Cygnet	August 18, 1948	4,200	4,000
Manawan	November 19, 1948	16,800	3,841
Cameron	July 29, 1949	2,600	916
Bearhills	April 20, 1954	4,000	1,190
Big Hay Lake	July 15, 1956	11,360	3,000
	Totals	189,200	45,647

Under the government financial assistance policy, financial aid was extended to the Holden, Daysland, Cameron, Hay Lakes and Dickson Drainage Districts for their program of maintenance of their ditch systems. Some five and one-half miles of levels were taken to assist these drainage districts.

FINANCIAL ASSISTANCE POLICY

The Financial Assistance Policy was continued during 1958. This policy, pursuant under the provisions of part IV of The Water Resources Act, extends financial aid to towns, villages, counties, municipal districts and drainage districts facing serious drainage and flood control problems. Conditions under which assistance is rendered was published in the 1956 report and still apply. These are as follows:

1. The drainage problems involve both roads and land that are lacking in drainage.
2. The municipal district becomes the implementing authority of the project.
3. The government pays one-half of the cost up to a stated maximum following receipts of certified payment vouchers.

Ten financial aid projects were undertaken in 1958 pertaining mainly to flood control and drainage project at an approximate cost of $42,060.00. Six such projects were undertaken by municipalities, five by drainage districts and one by the Town of Peace River. Engineering assistance was extended to some municipalities by the Water Resources office while in other cases consulting engineers were engaged. In the case of the financial assistance granted to the Town of Peace River, this was with regard to the improvement of Pat's Creek which runs through the Town and was often a source of concern during the high water flow in the spring. Further to this, the old timber cribbing was in a state of decay and collapse and presented a very untidy appearance.

Negotiations were first begun for work on Pat's Creek in 1957. The Water Resources engineers carried out the surveys and design for the construction of a reinforced concrete retaining wall to be installed along both sides of the creek within the town's boundaries. However, the town was not financially able to carry out this project in 1957 and it was carried over into 1958. During the latter part of summer it was decided that a portion of the original over-all scheme would be constructed. Tenders were therefore called by the Town of Peace River and a local contractor was the successful bidder. The work as undertaken is now completed and it is believed that the project will be most beneficial as well as presenting a pleasing appearance to the creek. Some engineering supervision was provided by the Water Resources engineers during the construction of this project.

On a fifty-fifty agreement with the County of Warner and the Raymond Irrigation District 9,000 feet of channel was cleaned and improved in the outlet from Stirling Lake to Etzikom Coulee. Due to flat slopes and excessive meandering this reach of channel had a tendency to silt up and held the lake level too high for proper drainage of farm lands to the west. The channel was straightened and deepened to lower the water two feet below its October, 1958 level. At present the lake level is down about 1.5 feet and the water still flowing out. Another fifty-fifty agreement with Willow Creek municipality provided for the construction of three drainage inlets to let water into the Lethbridge Northern Irrigation District main canel north of Fort Macleod.

SPECIAL INVESTIGATIONS

During the past summer a number of small drainage proposals were surveyed for the purpose of evaluating the cost of construction as compared to the value of benefit that could be derived from such schemes. A total of 105 miles of levels and five miles of transit work was carried out in the determination of this information. The following are major proposals surveyed under this program:

1. Dapp Creek

Dapp Creek has a drainage area of approximately 187 square miles and has its outlet in the Pembina River. At present the creek overflows its banks in two major places causing wide spread flooding in this area. This office received two petitions regarding possible assistance from Water Resources and as a consequence some 18 miles of creek was surveyed. It was found that the major portion of the creek would only require brushing and cleaning while the area subject to flooding would require a ditch to eliminate the numerous meanders and so make available a more suitable drainage. The design and cost estimate of this project will be compiled for consideration early in 1959.

2. Calmar

During the 1952 runoff the Village of Calmar received its first flood. As much as three feet of water was inundating the village. Since then Calmar has received varying degrees of flooding. During the past year one of the Water Resources engineers studied the situation and proposed a canal that would intercept a major portion of the runoff water before it reached Calmar. The design and cost estimates were completed during the summer and given to the Municipal District of Leduc and the Village of Calmar for consideration. It is interesting to note that Calmar was built over the junction of three major runoff channels which explains the annual flooding it received.

3. Redwater and Wakamao Proposal

During the spring runoff the Redwater River overtops its banks in many places. One of these places is south of Wakamao Lake which is located east of Clyde. Nearly every year the Redwater River backs up into Wakamao Lake causing wide spread flooding around the lake and its outlet to the river. Water Resources engineers surveyed the outlet of Wakamao Lake was well as the Redwater River. It was found that a canal could be constructed to drain the lake but the cost of improving the river channel would be enormous as any improvement at one place could cause additional trouble downstream. Further investigation showed that there were certain people who preferred the lake to remain as it is. It would appear that this proposed drainage scheme will be left in abeyance for the time being.

4. Grassy Island Lake

This lake has the distinction of having no outlet and since the last few years have been wet years, considerable flooding has been caused and consequently residents around the lake submitted a petition requesting assistance from the Water Resources Office. Upon investigation it was found that St. Lina Creek, the proposed outlet, was badly choked with brush and subject to flooding in present conditions. The municipality would not accept responsibility and so this project was not eligible for consideration under the fifty-fifty financial assistance policy. This leaves one alternative, namely, the formation of the drainage district. At this time the farmers involved have a design and an approximate cost of the scheme but have not as yet decided what action will be taken. The amount of inundated land that could be reclaimed does not appear to justify the high cost of constructing a proper drainage system that would prevent further flooding in the future.

5. General

Numerous other problems in drainage and flood control were inspected and discussed with municipal officials. Technical advice was given to the Municipality of Smoky River with regard to such drainage problems and ditches. In carrying out these general inspections and special investigations, survey crews ran a total of approximately 200 miles of levels, 40 miles of transit work and made topographical surveys on some 3,000 acres in the area.

DRAINAGE AND FLOOD CONTROL PROJECTS

Heart River Project

With the termination of construction of the McLennan-Girouxville canal in 1957 it was thought that the Heart River Project, begun in 1949, was completed. This, however, was not to be the case since an exceptionally heavy runoff was experienced in the Peace River area last spring. Practically the entire area through which the McLennan-Girouxville canal runs became inundated to the point where it was impossible to even identify the canal or any of its structures. When the water finally receded it was evident that considerable damage had been done to the works. What was originally a three to four bed width was now enlarged to a ten to twelve foot bed width and out of 14 structures only two remained in operational condition. With the new knowledge gained from this runoff with regard to the concentration of the flow and spill facilities, Water Resources engineers re-accessed the design of the project and revised it accordingly. Tenders were then called for the re-construction of the works. Although it was not possible to start construction on the works until late in the year, a dry and open fall was conducive to rapid progress and the project was completed in November.

The damage caused by the spring runoff was due primarily to the flood waters overtopping the structures and washing out the adjacent backfill. This left the structures relatively in good condition and it was consequently possible to salvage a good portion of the timber for re-construction of the enlarged structures. Actually, the condition of the structures after the flood was a credit to the method by which they were orginally constructed.

It may be stated that the operation of this project, as observed during the 1958 spring runoff, leaves no doubt as to the tremendous benefit which will be derived from these works by the adjacent and surrounding farm land. In addition, drainage for the main highway, municipal roads and towns of Donnelly and Falher has been very substantially improved. One illustration of the benefits of the project is to be found in the fact that some adjacent lands were cultivated in the spring of 1958 for the first time in the history of their ownership—and this in a year in which the area experienced one of its most severe runoffs.

In re-constructing the works many of the structures were enlarged in capacity and the last two structures of the canal were constructed of reinforced concrete rather than with timber as formerly. Road crossings and side drainage inlets were very heavily protected with rip-rap consisting of sandbags filled with concrete. In spite of the damage caused by the spring flood, the towns of Falher, Donnelly and Girouxville were still able to use the works for a supply of domestic water.

The outlet works from Lake Winagami, through which the waters of the lake are returned to the Heart River, have been severely over-taxed since their construction in 1951. These works were built at a time when Northland Utilities Limited were seriously considering the use of water from the Heart River Project for the development of hydro-electric power and it was consequently anticipated that the outlet from Lake Winagami would have only limited use. However, this hydro-electric potential was never developed, although Northland Utilities still considered it to be a project of the future. Consequently the outlet structure has been quite inadequate to carry the discharges which have been demanded of it. Each spring the level of the lake has been prevented from rising to the point where it would over-top the structure until the 1958 spring runoff at which time the water rose to a point one and one-half feet above the head wall of the structure. It was only through the placing of sandbags and other protective measures that the works were held against the extreme high water levels. These works, however, cannot withstand further punishment and consequently a new design was prepared during the year for a more adequate and substantial structure which it is anticipated will be built sometime in 1959. This newly designed structure incorporates an automatic feature which will maintain a reasonably constant water level on Lake Winagami. In view of the rather exceptionally rapid development of this lake as a recreational area, this would be a most desirable future.

Kleskun Hill Project

The Kleskun Hill Project seems to have been destined to a number of unfortunate circumstances. Construction was begun late in 1956 and little was accomplished in that year apart from the excavating of three miles of earth canal. In 1957 the installation of two miles of flume and other pertinent works was undertaken. However, extreme rain falls during the summer and fall severely hampered progress of construction and the works were left in a very unfinished condition at the end of the year. Again the extremely heavy runoff in the spring of 1958 played havoc with these unfinished works. Damage to portions of the original excavation in which the flume was located was such that the original principles of design and construction could no longer be applied. Water Resources engineers therefore compiled a revised design and in the latter part of the year a new contract was awarded for the completion of the project. The contractor was rather slow in his progress during the initial stages of re-construction, however, a very concentrated effort was made during the fine fall weather and although the project was not entirely completed, the works are advanced to the point where they should be able to carry out their function next spring without undue difficulties.

The damage caused by the spring floods on the unfinished works gave rise to certain criticisms. The Minister consequently appointed a committee to investigate the adequacy and proposed features of the works. This committee unanimously confirmed that the design and intent of the project was sound. The committee was also most helpful in suggesting ways and means whereby the damaged works could be satisfactorily re-constructed. In spite of the fact that the project was uncompleted at the time of the spring floods, it was very evident that had not the works so far constructed been present, the main highway and adjacent farm land could well have severely suffered from the uncontrolled rush of runoff water.

East and West Prairie Rivers Project

In the annual report of last year it was stated that extensive surveys had been carried out in 1957 for the purpose of investigating the possible solution to the flooding problem of the East and West Prairie Rivers. Analysis of the results of these surveys indicated that a contour map of the area was essential because of the rough nature of the terrain and the heavy growth of vegetation. In 1958 surveys were therefore made to establish horizontal and vertical control for an aerial survey over an area of 400 square miles. Some of the country is impossible to penetrate except during the winter season when the muskeg and swamps are frozen. These surveys are consequently being continued during this winter season.

In the latter part of the summer a contract was awarded to an aerial photography firm through the Technical Division of The Department of Lands and Forests and the entire area was photographed from the air. These protographs and the ground control so far established are now in the hands of the Technical Division who will begin compiling the contour maps sometime in February. It is anticipated that the information supplied by these maps will enable the Water Resources engineers to establish a definite route location for a diversion canal to carry the flood water of the East and West Prairie Rivers thereby eliminating the almost yearly flooding conditions and reclaiming a large area of fertile land for agricultural purposes.

Discharge gauging stations and silt load content gauging stations for obtaining measurements during peak discharges were also established on these rivers during the year. Some hydrometric and precipitation studies have been made for the area and these investigations will be continued in the forthcoming year.

A proposal has also been presented to remove the large trees adjacent to the upstream portion of the river. In the past trees have fallen into the river through erosion of the river banks and have created very serious log jam problems. It is hoped that this work can be carried out during the winter months. Such a scheme will have to be undertaken sooner or later if the proposed diversion works are to remain effective for any extended period of time. Blasting operations were again carried out on a log jam which persistently forms a short distance north of the number two highway near Enilda. During these operations a new canal was excavated with explosives to cut off a meander loop in the river in the hope that the driftwood will be carried past this troublesome spot.

A further proposal under consideration entails the construction of a second dam on the Heart River. This river contributes to the general flooding conditions in the High Prairie-Grouard area during the spring runoff. The construction of the first Heart River dam in 1950-51 did much to alleviate this problem. The present structure, however, affords little or no control on the amount of water which flows from the reservoir behind this dam into Lake Winagami at times when the reservoir water elevation is high. A second dam adjacent to the present structure would provide a means of controlling this flow of water and in addition provide ten feet of additional storage on the presently existing reservoir. This would make it possible to exercise a very rigid control on the flow of the Heart River as well as control on the level of Lake Winagami. As previously mentioned, a control of the lake level would be most beneficial to the extensive recreational facilities now provided by the Provincial Park on the shores of the lake.

Surveys and foundation tests have been conducted on this proposed dam site and the engineers are at present compiling the final design for anticipated construction in 1959.

Pembina River Flood Control Project

Work on the Pembina River Flood Control Project, which was initiated to prevent the river from spilling into its natural flood plain, continued in 1958. The engineering action employed is known as "river training" which primarily involves a co-ordinated system of eliminating exaggerated meander loops known as "cut-offs". By the method of flood control the spill waters of the Pembina River will be confined within its banks and thereby relieving the residents in the flood plan from the severe floods which they have experienced. The major zone of complaint is between Manola and Jarvie in the Westlock area, a distance of approximately eighty river miles. To readers interested in knowing the previous details of this project, reference is made to the 1957 Annual Report.

In 1958 emphasis was placed on surveying the river within the zone of complaint and observing the development of the two cutoffs constructed in 1957. While the actual river survey was commenced in 1957, a more concentrated effort to attempt completion was planned in 1958. To accomplish this, five survey crews—a compliment of eighteen men were employed during the summer months. To accommodate the men, a camp with all facilities was established at a point midway between the extremities of the project.

The season was a very successful one with the aid of favorable weather conditions. Three survey crews were assigned to obtain all the pertinent details about the cutoffs and the river itself. One crew was assigned to precise leveling, that is, locating and planting bench marks to co-ordinate the project under a common datum. The other crew was assigned to observe the development of the cutoffs constructed in 1957. This crew, besides using standard survey equipment, employed the use of a survey boat equipped with special equipment such as a current meter for discharge observations and a sonic sounder for locating the bed of the river. The precise leveling crew, after completing its assignments on the Pembina River, proceeded with a preliminary survey of the Paddle River.

Sonic depth sounder in operation.

To report this year's progress, eleven cutoffs were investigated and completely surveyed bringing the total number to 19 out of the 24 slated for investigation. Besides the complete survey of the cutoffs, information such as river cross-sections, river bed levels, river chainage, soil samples, daily water levels, discharge measurements and river bed movement were obtained. Part of this work could be broken down to amount to 40 miles of transit work, 10 miles of cross-sectioning and 200 miles of precise and ordinary levelling.

As a result of the work carried out, a contract was awarded for the construction of two additional cutoffs at a cost of $69,001.00.

One cutoff was completed this year while adverse weather conditions forced construction of the other cutoff to be carried over unttil the spring of 1959.

Although the flow in the Pembina River was too low to test the effectiveness of the two cutoffs constructed in 1957, their development is most encouraging. One cutoff especially widened out very rapidly thereby diverting the whole flow of the river through the cutoff. The drop in river bed level and the sedimentation of the old river meander were also encouraging signs. The development of these cutoffs with the additional two of this year will be carefully observed and recorded from year to year.

HEADWATER INVESTIGATIONS

The present and potential demand which will be imposed upon the water resources of this province cannot help but cause those concerned with such matters to project their thoughts and meditate on the consequences arising out of a future shortage of these resources. Such considerations are further prompted when one considers the experiences of other countries in the world and particularly the United States. The present demands on the North Saskatchewan River in the vicinity and downstream of Edmonton, coupled with the low discharge of the river this December, makes one realize that suggested future water shortages are more than mere speculation. The Province of Alberta is guardian over the source and supply of two of the major drainage systems of Canada. If we are to fulfill our obligation to future generations, then we must prepare for the ultimate maximum use of our water.

In keeping with these thoughts, the Water Resources Branch in 1958 began a series of investigations into the conservation and maximum utilization of our water. The potential of the South Saskatchewan River drainage basin suggested a logical starting point. The first river to be investigated was the Clearwater. This river, due to its strategic location, affords the possibility through the construction of reservoirs of augmenting the flow in the North Saskatchewan River drainage basin; or through diversion of supplying water to the South Saskatchewan River basin.

Surveys of two potential dam sites were carried out on the Clearwater and horizontal and vertical ground control established on 860 square miles of adjacent area for the purpose of compiling aerial contour plans through the co-operation of the Technical Division of The Department of Lands and Forests. The dam sites surveyed would create reservoirs and a potential combined capacity of some 414,000 acre feet. Some preliminary foundation investigations were undertaken and further studies as to the economics and feasibility of such a project will be considered in 1959.

Surveys and test drilling were also carried out on a potential dam site located on the Fallen Timber River, a tributary to the Red Deer River. A gratifying amount of information was obtained on this proposal before the severity of winter weather necessitated terminating these operations. Concentrated studies were made of available topographical maps to determine additional potential headwater dam sites and field investigations will be carried out on some of these during the 1959 season. It is noteworthy that the Department received gratifying co-operation from various oil companies which made available the aerial photographs which they had taken. This resulted in a very substantial saving in cost.

One tributarial stream which might well be considered in the over-all picture of water conservation is that of Stony Creek which originates in Burnstick Lake. Some years ago a dam was constructed at the outlet of this lake, however, it was in need of reconstruction and during the summer a new creosoted timber structure was built to replace the old one.

One of the most tangible, foreseeable benefits which could arise out of the conservation and storage program on the headwaters of the Red Deer River drainage basin would be the availability of an adequate supply of water for the development of the Alberta section of the William Pearce Project. This plan suggests the diversion of the Red Deer River headwaters through a long canal system which would provide water for the Kneehills Valley area as well as the Hanna-Youngstown area. The basic proposal is to provide these areas with a source of water for all purposes and for economy which would be basically stock raising. Such a project would make water available for municipal, stock watering, irrigation, industrial and recreational purposes. The existing engineering data on the long canal system is rather meager and it is proposed that detailed investigations be started on this proposal in the 1959 season. This project is essentially a long range scheme and would be developed gradually as the need or demand arose over a possible period of twenty to twenty-five years.

A plan and report of the scheme were prepared for presentation to the Prairie Provinces Water Board in connection with Alberta's request for a reservation of sufficient waters out of the South Saskatchewan drainage basin to meet ultimate demands brought about by future agricultural and industrial development.

A dam site was also surveyed on the Pembina River near Evansburg in connection with the future possible diversion of the McLeod River, which is now a part of the Arctic watershed, into the North Saskatchewan watershed.

HYDROLOGY SURVEYS

If one is to construct dams and reservoirs on any water shed, one must of necessity have some concept of the character of that water shed. It must be known what discharges to anticipate, how frequently a discharge of a certain magnitude will occur, what effect a rain storm of a given concentration and duration will have on the flows of the streams on that water shed. To do this one must study past records of river discharges, precipitation, terrain of the area, vegetation, geology and general topograhic features.

Before any concrete hydrology studies can be carried out, a great deal of fundamental information must be accumulated and processed such that it is available in a useable form. This year the Water Resources Branch undertook to make a beginning on the compiling of this fundamental information. A wealth of hydrologic data is available through a variety of sources and it was with the objective of collecting and correlating this data that the hydrology study program was undertaken. It was found, however, that much of the data presently available pertains to specific aspects of hydrology rather than to an over-all concept as required for our purposes. Efforts were therefore concentrated on the hydrometic information collected and recorded by the Water Resources Branch of the Dominion Department of Northern Affairs and National Resources and this information was processed into a form more readily useable in future hydrological studies. In addition, numerous precipitation records were obtained from the Forestry Department and the Dominion Parks, as well as the Meteorlogical Bureau for the stations which had a record of rainfall over the past twenty years in the North Saskatchewan River drainage basin.

The following is a summary of the work so far completed:

1. Hydrographs were plotted for a total of 14 rivers which represents 3,276 river-years of data.
2. Maximum, minimum and mean discharge plots were made for a total of 119 rivers which represents 458,388 river-years of data.
3. Frequency plots were compiled on 69 rivers.
4. Annual peak flow plots were made for a total of 70 rivers representing 76,580 river-years of data.

Although the data listed above forms only a beginning, the information compiled thus far is most useful and applicable to many engineering problems. We have in fact had numerous requests for this information from a variety of sources and many have expressed their keen interest and hope that progress will continue on this work.

ST. MARY AND MILK RIVERS DEVELOPMENT

General

No new construction contracts were awarded for the work on the St. Mary and Milk Rivers Development during 1958. Work continued on the contract awarded in 1957 for the construction of The Cameron Ranch District and it is anticipated that this contract will be completed prior to the end of the 1958 fiscal year. Other works which were begun in 1957 by Water Resources staff and equipment and completed in 1958 are as follows:

1. Construction of the Taber-North Fincastle drain which included about ten miles of main drain and spur drain.
2. The re-routing of portions of the lateral N in the Big Bend distribution tract.
3. The re-decking of several bridges with treated sub-deck material.
4. Enlarging of the S.M.R.D. northeast lateral in order to more adequately serve the requirements of the Cameron Ranch distribution system.

New Work Undertaken in 1958

Numerous small works were undertaken and completed in 1958 by the Water Resources staff and equipment. This included such things as the construction of fifty Texas gates and also turnout extensions for ditchrider access along canals in the Big Bend main canal area, the Medicine Hat and Bow Island areas. Approach fills and roads were constructed on the west side of the Chin Bridge for access to the right of way along the Chin reservoir. A new bridge was constructed over the main canal at the north boundary of section 12-7-21 and dump-boards were installed on various other bridges where required.

The spillway supplying water for the Cameron Ranch District distribution system was enlarged to accommodate the requirements of this system. Sections of rip-rap on the forty mile spillways were replaced and grouted. An additional supply ditch was also constructed to deliver water to the Taber reservior.

The construction of a ditchrider house for the Cameron Ranch distribution system was undertaken by our own personnel and this work is at present under way. The installation of wiring, heating and plumbing was arranged for by tender through the Purchasing Department.

General surveying was carried out primarily with regard to the establishing of drainage courses in the Medicine Hat area.

Canal Lining Works

In 1957 investigations were carried out to determine the most economical and effective canal lining material. In 1958 some six miles of canal lining work was undertaken in areas of excessive seepage. This work was done by the Water Resources crews and equipment. "Visqueen" polyethylene vapor barrier was used for the lining material. The Extension Service of The Department of Agriculture has since made periodic groundwater observations and it has been ascertained that the lining program has had a very definite effect on the groundwater elevation in these areas. Of the work undertaken about four miles of canal lining remain to be done in the spring of 1959.

Deepening of Big Bend Main Canal

Since its construction in 1950 there has been evidence of seepage and ponding on a parcel of land adjacent to the Big Bend main canal. To overcome this problem this canal was deepened some seven and one-half feet and three former drop structures were combined into one. Observations during the summer have indicated that this work has been very effective in reducing the seepage problem and wet conditions of land adjacent to the canal.

Construction of Fill to Replace Barnwell Flume

The Barnwell flume has rendered service to the Taber Irrigation District since the beginning of this project, however in 1958 it was decided that this flume was in need of replacement. Arrangements were therefore made whereby the District was able to obtain a loan from the provincial government to cover the cost of this work. The flume was replaced by a dirt fill and this work was undertaken by the Water Resources personnel and equipment and charged to the District at cost. Precast concrete headwalls manufactured by Water Resources at Grassy Lake and grouted rip-rap drop structures were used to accommodate the five and one-half feet of difference in grade between the new and the old canal. This project will be completed early in the spring of 1959 for use during the next irrigation season.

Enlarging of Magrath Irrigation District Main Canal

The Magrath Irrigation District canal was found to have insufficient capacity to meet the full requirements of the District during peak demand periods. In the spring of 1958 our construction equipment began work on enlarging about one mile of this canal. It has since been observed that an additional small length of canal near the head works will require higher banks for efficient operation. This work will be carried out in the spring of 1959.

Drainage Work on South Horsefly Area

In August the Drainage Committee recommended that considerable drainage work be constructed in the very seriously affected area south of Taber. This work was begun by Water Resources heavy equipment in September. Three rented draglines were also used. The work has progressed favourably and at the time of this report work is still underway.

Bellcott Drainage Basin Problem

There is an area of irrigation south of Medicine Hat which is located in a saucer-shaped basin. Natural runoff, irrigation practices and seepage from canals in the area have contributed to the ground water condition to the extent that excessively high water tables developed and began to detrimentally affect the productivity of the lands. Very exhaustive studies were carried out on this problem, not only by Water Resources personnel but also by the Extension Service of the Department of Agriculture and The Alberta Research Council. Pumping and seepage tests were carried out and when all available data was eventually collected the Drainage Committee made recommendations as to an effective remedy. Crews started on this work in August with the installation of control drop structures to inlet the drain from this area into Seven Persons Creek. The original drain was then deepened and a new railway crossing was installed. Spurs were constructed into the serious ponding areas and so far the work has progressed favourably. This project will continue in 1959.

Expenditures (as of November 30, 1958)

Expenditure on construction contracts	$ 104,292.87
Contract Labor	2,829.47
Equipment rentals	36,750.13
Purchase of equipment	18,958.71
Purchase of materials	18,189.73

Expenditure on St. Mary-Milk Rivers Development—Construction Vote

1949-50	$ 94,762.33
1950-51	1,673,563.07
1951-52	2,308,185.04
1952-53	2,861,149.31
1953-54	3,207,789.61
1954-55	2,974,392.55
1955-56	982,858.31
1956-57	662,418.70
1957-58	483,921.55
1958-59 (to December 29, 1958)	531,584.10
	$16,780,624.57

BOW RIVER DEVELOPMENT

The 1958 construction season on the Bow River Development saw the completion of all the main canal and distributary contracts as it is presently proposed. Ten separate distributary systems can now be serviced with water. Three of these systems have turnouts from the P.F.R.A. main canal, the remaining seven from the Lomond lateral. These systems are complete in detail and under present classification will service approximately 45,000 acres. The construction of the Enchant drain is not completed. Due to adverse water table and excavation conditions a two and one-half mile section of this drain had to be relocated. The additional common excavation caused by this relocation precluded the completion of this contract during this construction season.

The Bow River Development vote for the 1958-59 fiscal year was $1,271,110.00. The unexpended portion of this vote at December 15, 1958 was $460,000.00.

The following is a list of the contracts completed and partially completed during the 1958-59 season.

Contract No.	Description	% Completed	Cost to Date
11	Lomond Lateral	100%	$294,428.99
12	"H" Distributary	100%	331,938.90
13	J & K Distributaries	100%	78,011.00
14	Enchant drain	80%	168,272.37
Bridge Contract No. 6	Enchant bridges	75%	15,000.00

Bridge Contract No. 6 will be completed by January 31, 1959.

In addition to the above listed contracts the following work was constructed by Water Resources personnel:

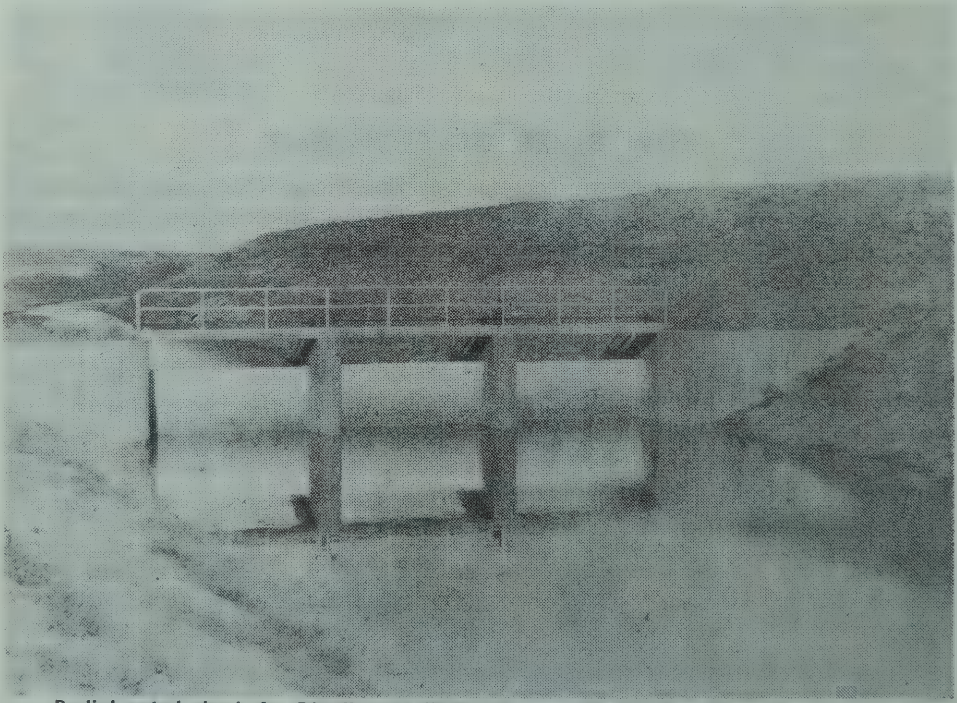
1. A concrete and steel siphon under the C.P.R. tracks north of Travers was constructed to serve distributary "D".
2. Twenty farm timber bridges were constructed to provide additional canal crossings to service several parcels of land.
3. Road drainage culverts were installed where canal construction had interfered with natural road drainage. Further work will need to be done along these lines when the necessity arises.
4. The Lomond Lateral and distributaries "D", "E", "F" and "G" were primed and tested. Due to the late date of completed construction on distributaries "H", "J" and "K" these systems will have to be primed and tested in the spring of 1959.
5. Canal bank seeding operations were commenced late in the fall.

Survey work progressed steadily on the required detailed topography on the Sundial-Retlaw extension. It is anticipated that this work will be completed by March 31, 1959.

Legal surveys of canal location and right-of-ways continued during 1958. The following is the quantity of work done in this regard.

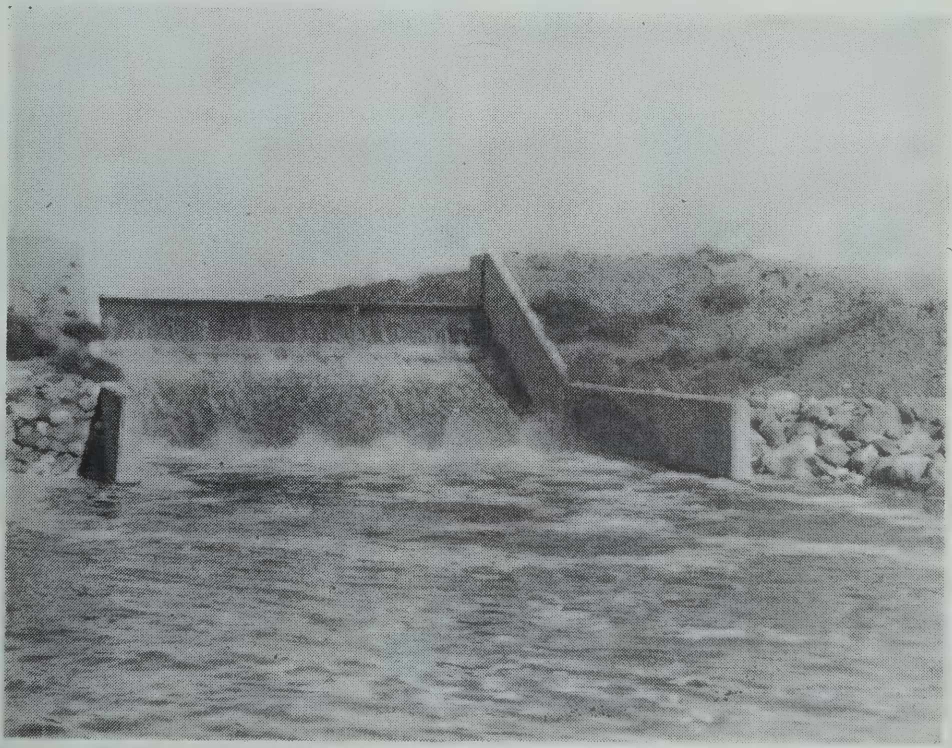
Section lines	383 miles	Evidence	15 miles
Canal survey	92.5 miles	Reservoir traverse	5.5 miles
Drain canal	3 miles		

The photographs shown are some of the structures completed and in operation.

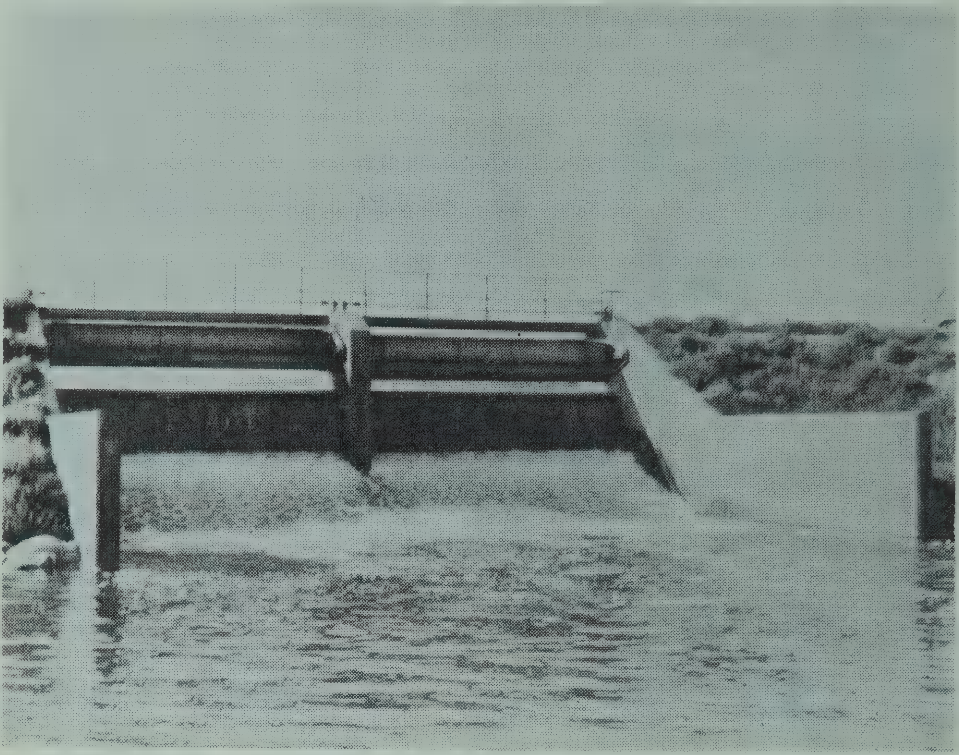


Radial gated check for Distributary "D". Western Block—Bow River Development.

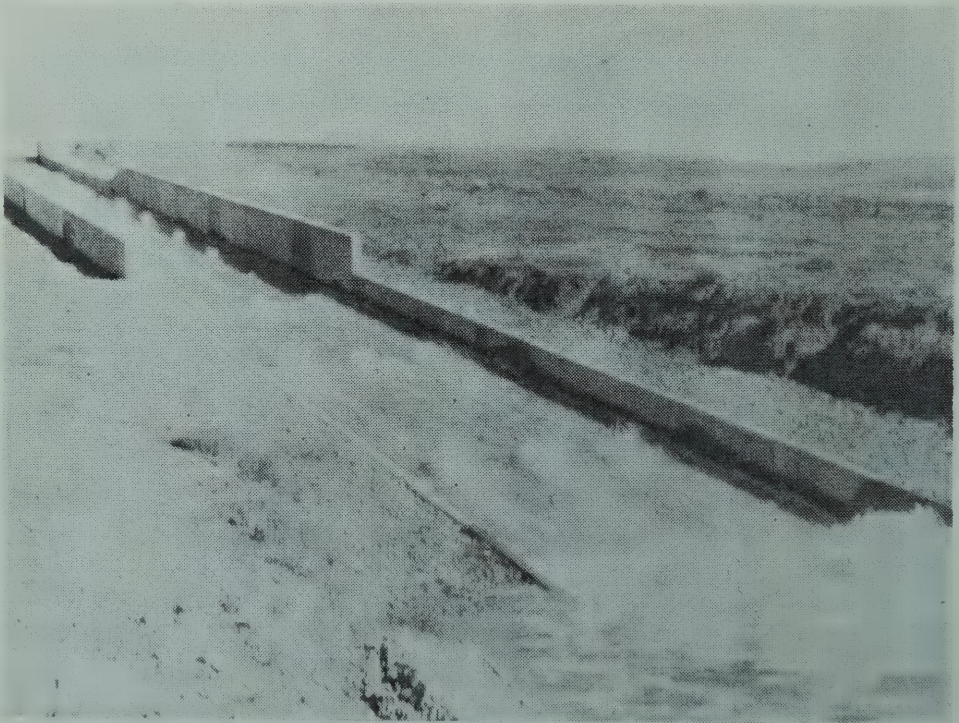
Syphon under C.P.R. tracking servicing Distributary "D". Western Block—Bow River Development.



Standard Chute Drop on Lomond Lateral. Western Block—Bow River Development.



Check Drop for Distributary "F". Western Block—Bow River Development.



Wasteway No. 3 on the Lomond Lateral. Western Block—Bow River Development.

Expenditures

Construction contracts	$ 342,584.91
Contract labor	273.76
Equipment rentals	10,104.76
Purchase of equipment	8,963.25
Purchase of material	62,486.40

Expenditure on Bow River Development (Western Block)—Construction Vote

1954-55	$ 644,094.08
1955-56	694,783.35
1956-57	1,533,603.96
1957-58	1,332,592.25
1958-59 (as at December 30, 1958)	834,194.99
	$ 5,039,223.63

Hydro-electric Power Development

In the power generation program for 1958 Calgary Power Ltd. completed their number one steam generating unit which is the second unit to be installed at Wabamun. This unit is rated at 70,000 KW bringing installed capacity to 140,000 KW.

This has been the greatest year so far for gas turbine installations, both in number and capacity. The City of Edmonton with the largest of 30,000 KW, Canadian Utilities Limited and the City of Lethbridge each with 10,000 KW. These last two units are at opposite ends of the province. The Canadian Utilities Limited plant is located at Valleyview. The gas turbines are lower in their demands on water but still require sufficient that they have to be located near a good steady water source.

There have been no new water power installations added during 1958 but work is proceeding on the additional units for Spray and Rundle plants which will bring them an additional peaking capacity of 80,000 KW. These plants should be in operation in 1960.

Extensive investigational work has taken place on the Brazeau River by Calgary Power Ltd. Test pitting has been done over a considerable amount of the area known as the Big Bend Site. Aerial photographs were taken and good ground control surveys were made. From this information detailed aerial maps have been made over the area. It is expected that the future of this location will be decided in 1959. The estimated storage is given by Calgary Power Ltd. as 800,000 acre feet. Cost of the storage and initial 180,000 HP installation is given as $45,000,000. The ultimate development could be for four units of 180,000 HP each. When fully loaded these hydro units would discharge 19,000 c.f.s. but the maximum daily average would be a fraction of this.

Report of Supervisor of Irrigation and Drainage

Irrigation districts requesting information on certain aspects or provisions of the Irrigation District Act were helped. Reports were made on the Lethbridge-Coaldale area and on the dissolution of the Fincastle District. The procedure to be followed by a district in respect to townsites within their area was gone into with several districts. Investigations and reports were made in regard to drainage complaints. Legal surveys were performed for the Crown for canal and roadways to clarify authority. The engineering work of design of structures and bridges was continued and professional evidence was given regarding structural design in a case of overloading.

The United, Leavitt and Aetna Irrigation Districts were administrated with the aid of elected committees and the Macleod District by sufficient meetings of all the water users. The more specific aspects of the work in a brief way of administrating each of these districts as Official Trustee is given herewith.

Leavitt, Aetna and Mountain View Irrigation Districts—these projects are taken together since their source of supply is Driggs Lake reservoir which is supplied by the Belly River. Construction work was continued in each of these projects and on the main works. Access to the east dam of the reservoir and to the overflow spillway was completed and repair work to the dam was effected where dangerous settlement had taken place at the new outlet pipe. The dam facing was repaired where necessary and additional rip-rap installed. An access road and turn space was provided and gravelled for purposes of safety and a road approach completed for the ranchers to the south and west of the reservoir. Legal surveys were made to purchase such lands as are required for right-of-way requirements and the purchase of such lands was arranged. The right-of-way requirements, being some twenty miles, has nearly all been obtained.

Pile bridges and crossings were constructed over the main canal from the Belly River weir to Driggs Lake storage reservoir. Maintenance work was also done on the canal from the Belly River to the storage reservoir.

A very heavy demand for water was experienced during the year and continued until late October for pastures and grasses. The Aetna and Leavitt Districts continued to expand their development works. Briefs were prepared and submitted and attendance arranged at the hearings of the Irrigation Study Committee.

United Irrigation District—this District received permission to divert water from the Belly River on July 11, 1923 and it is therefore one of the oldest districts in the province. This District found itself confronted with a unique problem created by the P.F.R.A. under the provisions of the St. Mary and Milk Rivers Development Act. The Waterton River dam and the diversion canal from the dam that will be constructed to the Belly River under this development severs the United Irrigation District into two parts. The impact of a development of this sort upon an established irrigation district of some 34,000 irrigable acres will create many problems. Legal surveys for right-of-way and land settlements were continued during the year and transfers drawn under the United Irrigation District Colonization Act. Briefs were prepared and submitted and attendance arranged at the hearings of the Irrigation Study Committee.

A heavy demand for water during the dry spring period for hay and pasture was experienced. Water for stock was carried until the middle of November. A number of structures were replaced during the year and dragline work and pile driving was continued.

Macleod Irrigation District—this project has not as yet stabilized itself and studies were made during the year to try to ascertain the factors that were causing these unstable conditions.

The finances had been cleared up in 1957 by rate enforcement proceedings. A record and bookkeeping system was set up to comply with the District's present requirements.

The P.F.R.A. was approached to conduct tests of the works originally built by them and the District agreed to make tests of their distribution system. The P.F.R.A. conducted tests from the Oldman River to the division point in the District. This included the river diversion works, pumps, storage reservoir and a section of canal to the reservoir and the outlet from the reservoir and the canal to the division point. The District tested their distribution system. These tests continued until late October and were devised to determine the adequacy of the system to meet the new point of view of the water users who feel that further studies should be made. These studies they feel should review the possibility of expanding the area of the project to form a large stock watering scheme with some irrigation. During the tests stock water was supplied to the water users. Some structural and dragline work was done to maintenance during the year.

The co-operating bodies have not as yet completed their studies which will involve the determination on the ground of the area to be served and also soil tests to determine the feasibility of such an expansion. Further water supply studies must also be made. The Irrigation Study Committee visited the project during the period of test and obtained some information relative to the beginning of the project and the headworks.

Calgary District Office

Flow in the major stream has been below normal during 1958 and this flow continued to be low at the beginning of the winter season. The extremely heavy spring runoff in the Cluny area caused severe damage to the Cluny flume works built in 1956. Surveys were conducted during the summer to determine a more satisfactory solution to this erosion problem, but as yet no reconstruction has been undertaken.

The investigation of potential upstream storage sites continued. In the Cypress Hills area two new upstream storage reservoirs were started by the P.F.R.A., one on Battle Creek and one on MacKay Creek. These were both located in the Provincial Parks and besides providing storage for use downstream, they will provide recreational sites for the general area.

In the Cypress Hills area an experiment in the administration of larger community projects by societies is being carried out. To date five societies have been registered to administer and control the water stored in these dams which were built by the P.F.R.A.

Some three hundred and fifty small projects were constructed during the year by the P.F.R.A., small projects division. Most of these were in the Special Areas or the Cypress Hills area. Ducks Unlimited continued its program of development of storage for recreation and other uses and during the season constructed an estimated twenty projects in the general vicinity of the area.

Repairs on the Little Bow headworks were postponed until 1959 due to the reliance on the canal of the Village of Carmangay for its water supply.

Advice was given to the Department of Highways, Fisheries Branch, The Canadian Pacific Railway, various municipalities, companies and others on problems concerning water resources.

One particular problem that caused considerable trouble was the regulation of the amount of silt that a sand and gravel washing plant could return to the streams. Our legislation is rather indefinite in this regard.

A plan and report were prepared to justify our request to the Prairie Provinces Water Board for a reservation of water for the William Pearce Project. The plan outlined the proposed long canal system which would provide water for the Kneehill Valley area as well as the Hanna-Youngstown area.

Negotiations were started with the Federal Government towards an agreement regarding hydrometric services and the sharing of expenses. Reports were prepared on a two year hydrometric program of development and future requirements in hydrometric services. Other hydrometric and hydrological reports were made on the request of various interested parties.

This year saw the start of a program of depth measurements of various lake and reservoirs in the area using a sonic sounder. The plan is to measure the depth at five year intervals to determine the change due to silting or other causes. Surveys were completed on ten lakes and reservoirs this year.

A booklet was prepared describing the work and responsibilities of the Water Resources Branch and was submitted for publication. Work on the major revision of the book "Water Resources in Alberta" continued and should be completed in 1959.

In addition to other work the usual number of inspections were carried out. They covered all phases of our work from flood control to water supply.

Lethbridge District Office

River work was continued on the Crowsnest River and jobs begun in 1957 were completed on the Oldman and St. Mary Rivers. In connection with the Milk River works, an access fill was built to land served by cutoff excavated in 1955 near the Town of Milk River. Critical points of Lee Creek above Cardston were inspected and works were recommended to protect the Municipal District road but this work was postponed for another year.

On the Crowsnest River, in the Willow Drive area west of Coleman, improvement of 800 feet of channel and rip-rapping of 850 feet of bend was carried out. Of importance to residents of this area and also to east Coleman where work was done in 1957, the channel improvement included the construction of formal banks which may be travelled and so make the river accessible for fire protection. These areas are not served by water mains.

At Fort Macleod our work included repair of erosion damage to unprotected groynes built in 1957 and the installation of gabions to protect against further erosion by the Oldman River. At Woolford Provincial Park gabions were installed on groynes built to prevent further encroachment of the St. Mary River into Provincial Park property. Because gabion protection is an innovation, careful records were made of unit costs and the performance of these works will be watched with interest.

During the year, water well drillers in the district were interviewed in an effort to improve their response to our need for ground water information. No drillers were faithfully reporting logs on all holes but without exception promised to remedy this situation.

Watermaster service was provided for water users on Manyberries Creek, Ketchum Creek and Hooper Creek during the spring runoff. There was a good flow on these steams and although water rights only cover 5,800 acres, an estimated area of 7,000 acres was watered.

Seepage measurements were made on Lateral M in the St. Mary and Milk Rivers Development near Medicine Hat. Due to the fact that the losses were so large, this testing could not be completed before the irrigation season but our results were useful in corroborating test results of the Extension Branch whose tests could be run with varying and uncontrolled amounts of flow.

During the year flooding and erosion complaints were few as were water disputes.

Ground Water

General

The purpose of The Ground Water Control Act is to conserve our under-ground water resources and to provide a means of utilizing the knowledge of the various water well drillers through cooperation in submitting a report on each water well. There has always been more or less a mystery connected with ground water and most information in the past has come largely through the experience of the individual well driller.

Water Well Drillers

During 1958 a personal contact program, designed to acquaint the government agency with the drillers and provide fuller cooperation in submitting water well drillers' logs, has proven very effective. Most of the 161 recorded water well drillers were contacted and as a result the number of reports received is substantially increased. Views and problems of the drillers were obtained and may be summarized as fellows:

1. Some drillers felt that the submission of reports comprise a service for which a fee would normally be asked and therefore conclude that regulations demanding free reports is unfair.
2. A problem of furnishing a legal description of the location of each well was voiced by many drillers. They resent the time loss in checking the map, asking the farmer, or contacting the Municipal office for the information.
3. It was discovered that while most drillers "mean well", possess a human element of neglect in submitting their reports.
4. In some cases the drillers have admitted a lack of sufficient education to permit proper completion of well drillers' reports.
5. While there were no drillers who actually admitted a lack of knowledge with regard to proper well design, construction and development, this condition is evident in many cases and points up the need for more knowledge and guidance.

The following is a comparison of the number of drillers recorded and number of reports submitted during the past three years:

	1956	1957	1958
Drillers	93	102	161
Reports	170	316	1,100

Lake Levels and Precipitation

Large bodies of water in the form of lakes have a definite affect in ground water recharge and can sometimes indicate actual water table conditions. The natural resilience of lake levels may advance or retard the shore line many feet and while obvious to the naked eye the fluctuation could, in reality, amount to a mere few tenths of a foot. Precipitation for 1958 was slightly below average for most of the province and reflected a general moderate recession in all major recorded lake levels. Water table and ground water conditions generally seem unchanged and are considered satisfactory. The following list shows a comparison of median levels for some of the major lakes over the past three years.

	1956	1957	1958
Gull	92.79	92.50	92.03
Sylvan	78.89	78.43	78.17
Cooking	97.99	97.54	97.00
Buffalo	87.60	87.26	86.16
Lac La Biche	99.19	96.43	96.18
Lac Ste Anne	98.03	97.49	97.07
Wabamun	72.35	71.79	71.20
Lesser Slave	93.52	93.15	93.10

Publications

J. G. MacGregor report on "Development of Northern Alberta". Our engineers rendered assistance in preparing data and maps for the section on water resources—March, 1958.

Calgary Power Resources Survey "Alberta—Province of Opportunity". Our engineers gave assistance in preparing data on water resources for this publication.

Report of the Colonization Manager

P. M. Sauder, Lethbridge Northern Colonization Manager
P. M. Sauder, New West Irrigation District Manager
R. A. Simmons, St. Mary and Milk Rivers Colonization Manager
R. A. Simmons, Bow River Development Colonization Manager

LETHBRIDGE NORTHERN COLONIZATION MANAGER

No additional sale contracts were issued in 1958 there being no land available for sale. The land and water rights agreements issued since the Colonization Branch was started total 1,101. During 1958, six contracts were paid up, making a total of 1,092, or 99.2% paid in full. The owners of these lands will not have any more capital payments to make and will only have to pay the water service charge in future. Only 9 contracts are not paid in full and the majority of these are up to date in their payments. The results would have been better if the contract holders could have marketed all of their wheat. Some additional payments will be made out of the 1958 crop on contracts, arrears of water rates and interest, before spring.

Since 1954, financial assistance given by way of loans to water users has been limited to loans for beet labour and hauling. The total amount loaned in 1958 was $284,718.04 as compared with $250,435.33 in 1957 and $258,846.70 in 1956. The Secretary-Treasurer of the Lethbridge Northern Irrigation District now looks after the office work in connection with the loans and the district bears the total expense of this service. The money used to make the loans is borrowed from the Treasury Branch in Lethbridge. The Treasury Branch was paid off on December 16th but there is a small sum still owing by a few beet growers. This will be collected out of future payments on the beets.

Each year, some of the sugar beet workers have taken other employment inside and outside of the irrigation district and others become tenants and purchasers of land. While there was difficulty in obtaining sufficient workers, the situation was not as bad as in some former years. In 1958 the workers on the Lethbridge Northern Irrigation District were made up as follows:

Area Looked After in Acres	Percentage of Total	Source of Workers
532	4.1	Japanese
1,046	8.0	Pre-war European and Miscellaneous
3,008	22.9	Growers own families
2,016	15.4	Post War Hollanders who came to Canada prior to 1958
3,880	29.5	Other Post War Europeans who came to Canada prior to 1958
177	1.3	1958 Immigrants
2,473	18.8	Canadian Indians
Totals 13,132	100.0	

6,395 acres or 48.7% of the total area in sugar beets was harvested by machinery.

902 acres or 6.9% of the total area in sugar beets was thinned by machinery.

We are pleased to report that more irrigation of summerfallow, stubble land and beet land was done in the Lethbridge Northern Irrigation District during the fall of 1958 than usual.

The following schedule gives statistics for sugar beet crops on the Lethbridge Northern Irrigation District for the years 1951 to 1958 inclusive:

Year	No. of Growers	Acres Harvested	Tons Harvested	Tons Per Acre	Sugar Content	Total Price Per Ton
1951	515	11,730	118,533	10.11	14.7%	$14.34
1952	514	13,148	165,299	12.57	17.3%	16.08
1953	510	12,516	144,641	11.56	17.3%	14.23
1954	514	13,184	152,869	11.60	15.7%	13.12
1955	511	12.988	146,390	11.27	17.7%	15.29
1956	491	12,545	151,551	12.08	17.2%	18.49
1957	481	12,788	157,798	12.34	14.9%	12.23
1958	487	13,132	195,606	14.89	16.0%	*

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*Total price will not be known until all sugar is sold.

Sugar beets is, of course, the main specialized irrigation crop on the Lethbridge Northern Irrigation District and has done more to help the water users to become successful farmers than any other crop. Other crops such as potatoes, peas, turnips, carrots, cabbage, beans, parsnips, strawberries, cucumbers, corn, mustard, gladioli, sunflowers and flax are also grown but we have no definite reports on these except that the production of potatoes was increased in 1958 but unit prices went down.

Feeding and marketing of livestock has also for some time been an important and profitable branch of farming in the Lethbridge Northern Irrigation District. The area in alfalfa and pasture was increased in 1958. Individual farmers on the Lethbridge Northern Irrigation District are feeding more cattle this winter despite the high prices of feeders.

The report of the Provincial Auditor for the year ended November 30th, 1958, will contain statements of advances made by the Province of Alberta on behalf of the Lethbridge Northern Irrigation District and the Assets and Liabilities of the Lethbridge Northern Colonization Manager.

THE NEW WEST IRRIGATION DISTRICT MANAGER

In the spring of 1952, the irrigation works belonging to the New West Irrigation District were transferred to the Minister of Agriculture of Canada. The water users now receive water from the Prairie Farm Rehabilitation Administration at the same price as the water users in the old Canada Land and Irrigation Company tract. Most of the lands are privately owned by the persons who farm them. The Manager still holds title to one parcel of land. It was expected that this parcel would have been paid up in 1958 but marketing conditions have delayed collection of the balance owing. Doubtless it will be paid off in the near future.

ST. MARY AND MILK RIVERS DEVELOPMENT COLONIZATION MANAGER

The total number of allotments made from 1951 to 1958 is 79 parcels to veterans and 87 parcels to non-veterans for during the year 1958, allotments were made to 4 veterans and 13 non-veterans. Of these 3 were allotments of parcels returned from previously cancelled contracts.

Three agreements for sale were cancelled during the year, one veteran's agreement, upon request due to health reasons and two non-veterans'.

As a limited number of parcels of land were left available for allotment and a large number of qualified applicants remained on our lists, applications ceased to be accepted after the 14th day of January, 1958.

Some 10 applications made prior to January 14th, 1958 were processed, all being classified as qualified to receive land. Although the taking of applications has ceased, many enquiries have been received from people wishing to make application for land.

The settlers becoming established in livestock have again shown the greatest progress. Generally speaking, good progress was made in 1958 by the majority of the settlers. The number of settlers in arrears has decreased to less than 5% of the settlers. Good crops prevailed throughout, although serious hail damage was suffered by most of the settlers in the North Bow Island and the Seven Persons areas. This will have an adverse affect on their financial progress.

Those settlers with sugar beet contracts had an exceptionally good year. Contracts for the new sunflower crop were secured for several of the settlers throughout the area.

Several of the settlers have completed new homes and others have started on this phase of their development.

Lack of finances is generally the most serious single factor retarding progress by the settlers in their development program.

Land levelling work under the Land Levelling Trust Account was carried out on the project on 156 parcels, improving 3,116 acres. Of this amount 1,173 acres on 27 parcels was done by the Government equipment, and 1,943 acres on 129 parcels was done by private operators. Of this amount 479 acres were done on 19 parcels of Colonization Manager lands.

The use of the rubber-tired equipment with the elevator-loader principle appears to have given more economical and efficient land levelling, although engineering deficiencies were encountered.

Collection of water rights ($10.00 per acre) for the entire project, was continued by the Colonization Manager and remitted to the Provincial Treasurer. Water right collections were approximately double the estimated collections. There were 1,024 water right accounts handled in 1958. An additional 684 accounts have been set up on which payments do not commence until the fall of 1959 or later.

The number of leases handled in 1958 decreased to 110. Included in these are the seepage and damaged lands handled by the Colonization Manager.

Inspections of land and a report was completed concerning the possible development of Irrigated Community pastures throughout the area.

Assistance and information was provided during June and July to the Provincial Irrigation Study Committee.

The Colonization Manager acted as Chairman of eight meetings of the Departmental Advisory Committee on Seepage, Drainage and Alkali problems. In addition the records of this committee are maintained at the office of the Colonization Branch.

The report of the Provincial Auditor for the year ended November 30th, 1958, will contain statements of advances made on behalf of the St. Mary and Milk Rivers Development, and the

Assets and Liabilities of the St. Mary and Milk Rivers Development Colonization Manager.

BOW RIVER DEVELOPMENT COLONIZATION MANAGER

An additional 10 parcels were allotted, one to a veteran and 9 to non-veterans. This brings a total allotment during the years 1957 and 1958 to 27 parcels, 2 parcels to veterans and 25 parcels to non-veterans. Most of these are to district residents or their sons.

During the year, 30 applicants were interviewed of which 24 were classified as qualified to receive land.

Applications continue to be received which indicates keen interest for irrigated land in that area.

Our settlers established in 1957 made satisfactory progress during the year with 5 of them having land levelling done on their parcels.

Land inspections were carried out in distributaries D, E, F, and G. Priming and testing was carried out in these distributaries and water was delivered for irrigation purposes for the second year in distributaries A, B, and C. Increased use was made of the irrigation water in these distributaries in 1958 with added acres of clover and alfalfa being established.

Good average crops were general, although severe hail destroyed a good proportion of the crop in the central area.

Land levelling was done on 12 parcels improving 403 acres. Of these 339 acres on 9 parcels was completed by the Government machines.

During the year 23 quarter sections were puchased while 91 parcels were leased for cultivation and pasture purposes.

Assistance and information was provided during June and July to the Provincial Irrigation Study Committee.

The report of the Provincial Auditor for the year ended November 30th, 1958, will contain statements of advances made on behalf of the Bow River Development, and the Assets and Liabilities of the Bow River Development Colonization Manager.

Report of Agricultural Extension Service

STAFF

HEADQUARTERS

F. H. NEWCOMBE, Director

S. S. Graham, Assistant Director
L. W. Rasmusson, Supervisor of District Agriculturists
Mrs. V. G. Macdonald, Supervisor, Home Economics Division
Mrs. J. Vanterpool, Clothing Specialist
Mrs. A. Speers, Home Designing Specialist
C. A. Cheshire, Extension Engineer
J. L. Reid, Assistant Extension Engineer
T. A. Petersen, Farm Management Specialist
R. E. English, Departmental Agricultural Statistician

DISTRICT OFFICES

Office	Agriculturist	Home Economist
Athabasca	G. L. Godel	
Assistant	G. R. McNaughton	
Barrhead	C. C. Robinson	
Berwyn	A. W. Beattie	To be appointed
Assistant	J. T. Lancaster	
Bonnyville	L. Gareau	
Brooks	Ira Lapp	Mrs. N. J. Gray
Assistant	M. F. Wilde	
Calgary	N. F. Bell	Miss A. Randle
Assistant	K. Sveinson	
Camrose	L. D. Williams	Miss N. Hooper
Assistant	F. Graves	
Cardston	D. L. Steed	
Claresholm	W. C. Yule	Miss I. Reid
Coronation	J. D. Jantzie	
Drumheller	S. W. Pettem	
Edmonton North	J. M. Fontaine	Miss J. Krupa
Edmonton South	P. Jamieson	Miss M. Inglis
Falher	To be appointed	
Grande Prairie	R. C. Moffat	Miss L. Roach
Assistant	M. H. Jaque	
Hanna	D. R. Macpherson	Mrs. B. Graumann
High River	C. E. Yauch	
Lac La Biche	S. C. Powers	
Lacombe	W. L. McNary	Mrs. J. Dent
Assistant	W. Dent	
Lamont	G. W. Shewchuk	To be appointed
Leduc	J. R. Gylander	
Lethbridge	A. E. Sherman	Miss E. Bartman
Assistant	R. M. Trimmer	
Mayerthorpe	H. B. Jeffery	
Medicine Hat	J. L. Anderson	
Assistant	M. A. Cameron	
Olds	H. J. Fulcher	Miss H. Howard
Ponoka	J. L. Kerns	
Red Deer	R. D. Price	Miss A. Nelson
Assistant	L. T. Jones	
Rocky Mtn. House	G. A. Ross	
Ryley	N. A. Chomik	
Sedgewick	A. E. Edwards	
Smoky Lake	F. Strashok	
Spirit River	E. C. Lowe	
Assistant	R. R. Marquardt	
Stettler	E. W. Walker	Mrs. H. Moore
Stony Plain	R. C. Bocking	
Strathmore	K. H. Walker	
St. Paul	M. Chevrette	Miss E. Zawadiuk
Taber	A. R. Jones	
Assistant	J. G. Calpas	
Two Hills	A. R. Letts	
Vegreville	W. N. Pidruchney	Miss P. Mascaluk
Vermilion	E. H. Buckingham	
Assistant	H. M. Douglas	
Wainwright	J. S. Duncan	Miss D. Shantz
Westlock	W. A. Ross	Miss E. Witney
Wetaskiwin	W. C. Proctor	Miss E. Dumont
At large		Mrs. B. Hucal

Irrigation Division

C. J. McAndrews	Extension Irrigationist, Lethbridge
L. D. M. Sadler	Drainage Specialist, Lethbridge
J. P. Redd	Assistant Drainage Specialist, Lethbridge
D. G. Harrington	District Irrigationist, Bow Island
N. S. Thomson	District Irrigationist, Taber
R. H. Schuler	District Irrigationist, Enchant
G. L. Steed	Agricultural Engineering and Soils, Lethbridge

APPOINTMENTS

Headquarters

T. A. Petersen	Farm Management Specialist
Mrs. A. Speers	Home Designing Specialist

District Agriculturists

J. T. Lancaster	Assistant at Berwyn
M. F. Wilde	Assistant at Olds
F. Graves	Assistant at Camrose
W. Dent	Assistant at Lacombe
M. A. Cameron	Assistant at Medicine Hat
L. T. Jones	Assistant at Red Deer
R. R. Marquardt	Assistant at Spirit River
P. Jamieson	Edmonton

District Home Economists

Miss I. Reid	Claresholm
Miss L. Roach	Grande Prairie
Mrs. J. Dent	Lacombe
Miss D. Shantz	Wainwright
Miss E. Witney	Westlock
Miss E. Dumont	Wetaskiwin

PROMOTIONS AND TRANSFERS

Headquarters

Mrs. J. Vanterpool	District Home Economist at Edmonton to Clothing Specialist

District Agriculturists

W. C. Yule	Assistant at Athabasca to District Agriculturalist at Claresholm
S. C. Powers	Assistant at St. Paul to District Agriculturalist at Lac La Biche
G. R. McNaughton	Assistant at Lacombe to Assistant at Athabasca
M. F. Wilde	Assistant at Olds to Assistant at Brooks

District Home Economist

Miss M. Inglis	District Home Economist at Lacome to District Home Economist at Edmonton

RESIGNATIONS

Headquarters

Miss H. Moseson	Clothing Specialist, Edmonton
Miss C. Sanderson	Home Designing Specialist, Edmonton
Miss B. J. Lewis	Extension Nutritionist, Edmonton

District Home Economists

Miss E. Mitchell	Berwyn
Mrs. L. (Mitchell) Folkins	Grande Prairie
Miss E. Kubrak	Lamont
Miss E. Craig	Wainwright
Miss J. Halliday	Wetaskiwin

RETIREMENTS

District Agriculturist

B. J. Whitbread	Edmonton South

UNDERGRADUATE SUMMER STAFF

District Agriculturists

C. Roth	Summer Assistant at Camrose and St. Paul
M. Kuryvial	Summer Assistant at Cardston
L. Bauer	Summer Assistant at Ponoka and temporary duty at Falher

District Home Economists

Miss D. Evans	Lethbridge and Calgary
Miss P. Nichols	Edmonton and Camrose

SUMMER ASSISTANTS

District Home Economists

Miss G. Daley	Olds School of Agriculture
Miss K. Carney	Berwyn
Mrs. G. Melnyk	At large
Miss M. Wigmore	At large

AGRICULTURAL SOCIETIES

Perhaps the principal feature this year has been the increase in Departmental support for agricultural fairs. As a matter of record, the development of the grant structure is tabulated hereunder as to basis and maximum:

	Maximum Grant	
	Class "C" Fairs	Class "B" Fairs
Basis 50% of amount paid in prizes:		
Up to and including 1948	$3,000	$3,000
1949	400	1,500
1954	500	1,800
1956	600	2,000
Basis 75% of amount paid in prizes:		
1958	1,200	3,000
Capital Grant—basis 66-2/3% of approved capital expenditures	....	1,000

Departmental support is also available for approved activities other than fairs on the basis of 50% of the amount paid in prizes or expenses necessary to conducting the activities, with a maximum grant of $125.00.

The following Societies held fairs in 1958:

Class "B"—

Camrose
Lethbridge
Lloydminster
Red Deer
Vegreville
Vermilion

Class "C"—

Athabasca
Barrhead
Battle River
Benalto
Cardston
Darwell
Donnelly-Falher-Girouxville
Goose Creek
Grand Centre
Grande Prairie
High Prairie
Mayerthorpe
Medicine Hat
Olds
Pincher Creek
Priddis-Millarville
Rimbey
Vauxhall
Westlock
Wetaskiwin
Wildwood
Willingdon

Other Societies:

Alix
Argyle
Central Alberta
Drumheller
Edmonton & District
Fairview
High River
Lamont
Lousana
Nanton
Okotoks
Plamondon
Rocky Mountain House
Spirit River
Stettler
St. Paul

Activities other than fairs in which Societies have concerned themselves are shown hereunder:

Tillage Competitions	2
Livestock Sales	27
Seed Fairs	3
Horticultural Exhibitions	6
Farm and Home Improvement Programs	15
4-H Club Display Competitions	6
Short Courses and Schools	12
Other	56

FARM LABOUR

General

The record of placements of general farm workers for 1958 indicates the continued trend toward self-sufficiency on the part of the farmers which has been apparent over recent years. It is true that weather conditions generally were somewhat dryer than in 1957 and as a result both hay and cereal crops were somewhat lighter. It is also true that apart from one or two short periods when rain interfered, general farm work this year proceeded without interruption. As a result also of less precipitation, weed growth was not so extensive and summerfallows did not require so many operations. Not withstanding these factors, however, it is apparent that farmers are conducting their operations with less and less hired help. It is difficult to assess what the effect may have been of the general level of unemployment throughout the economy. It seems doubtful that any appreciably greater number of unemployed proceeded directly to farms without our influence and, therefore, not reflected in our records. It may be possible, however, that the lesser number of employment opportunities in industry contributed to keeping more farm boys on the farm, and this may have been reflected in the number of farm requests for hired help.

There is some evidence to indicate that the proficiency of those offering themselves as farm help is becoming appreciably lower as the years go by. Some form of proficiency certificate would undoubtedly be very helpful to placement officers.

Seasonal Movements

(a) Ontario Farm Workers

The number of workers sent forward to Ontario this year would appear to indicate that this movement has reached the vanishing point. It is difficult to believe that the numbers sent in any of the last four or five years can have had any appreciable impact on the farm labour supply in Eastern Canada. Further, it is difficult to conceive of developments in western farming operations which would be likely to increase these numbers in the future. Insofar as Alberta is concerned, it is suggested that the numbers despatched scarcely warrant even the administrative work involved.

(b) Prairie Farm Workers

In this movement, also, the numbers coming forward in recent years, combined with general crop conditions in the Province, did not appear to warrant conducting the movement. Accordingly, no Prairie Farm Workers were despatched to Alberta in 1958.

(c) Alberta Harvesters

The number of placements indicated in the statistics at the end of this report reflects only those placements made by the Provincial Service. Last year's figure indicates the combined effort of the Provincial Service and National Employment Service. An estimate of the total which might be comparable to last year's figure would be approximately 1,100. A long period of open fall weather, free from precipitation, contributed greatly to the harvesting of the cereal crop with the available labour supply.

Sugar Beet Workers

(a) Immigrants

None of these were placed under the auspices of the Farm Labour Committee during 1958.

(b) **Indians**

During four years of operation, this movement has now assumed important proportions. It is true that there are not as many opportunities for the employment of the Indians in other parts of the economy and this undoubtedly contributes to the numbers available for the sugar beet movement. In addition, these workers are now more skilled and thus more acceptable to the growers. A total of 976 workers, comprised of 500 from Alberta and 476 from Saskatchewan, were despatched this year. In addition, there were perhaps 300 children. Trains, scheduled buses and charter buses were used for the transportation. In addition, some others arrived in the area by private transportation, raising the overall total of workers to an indeterminable number but possibly approaching 1,100.

Late evening and overnight arrivals were placed on farms the following morning, while morning arrivals were placed the same afternoon. Where necessary, one or two meals were provided at the Assembly Center.

The earnings of the Indians were probably somewhat higher this year due in part to a slight increase in per acre rates, but due also to the greater proficiency of the Indians, experience having permitted them to work more acres. Average earnings while on sugar beet work are estimated at $10.00 to $12.00 per day. A relatively small percentage of unemployables were returned to their points of origin. Most of these were unescorted women with one or more children.

This year for the first time the Health Services of the Indian Affairs Branch placed a registered nurse in the area for the summer season. General approval of this policy has been expressed by the workers and the growers.

The tendency of a percentage of the workers to remain in the area after the completion of sugar beet harvesting creates a minor administrative problem. It is now believed that it would be desirable to set a cut-off date, after which the Committee might not be responsible for either hospital or medical accounts, nor for the return fare of the Indians. Such a policy, however, might not be entirely expedient since almost certainly not all of the Indians would have returned by the date set. An attempt is being made this year to establish such a date but it remains to be seen whether or not it will work out in practice. It appears that some of the Indians will establish themselves permanently in the Lethbridge area and to this extent will contribute to the final assimilation of the Indians into the economy of the country.

Hospital and medical accounts will approximate in the aggregate the amount spent in 1957, when only about half the number of Indians were moved. It is believed that the services of the resident nurse may have contributed to this result. The greater contribution must, however, be attributed to the new hospital benefits program, under which the public still pays a part of the bill but only a fraction is left for the Farm Labour Committee.

It is a little difficult to assess exactly the cost to the public of this movement. It is estimated, however, from our figures that the expenditure of public funds would average $24.56 per worker.

LABOUR STATISTICS

	1957	1958	
General Farm Labour:			
Province	744	1,061	
National Employment Service	5,261	....	
			1,061
Seasonal Movements:			
Ontario Farm Workers	13	4	
Prairie Farm Workers	146	Nil	
Alberta Harvesters	1,407	423	
			427
Sugar Beet Workers:			
Immigrants	320	Nil	
Indians	506	976	
			976
Combines from U.S.A.	10	16	

MASTER FARM FAMILY PROGRAM

Thirteen farm families were nominated under this program in 1958. Of these, the following were declared as Master Farm Families:

The Andrew Jesperson Family, Stony Plain
The J. McCulloch Family, Didsbury
The Mel Wood Family, Tofield

This brings to thirty-nine the total number of farm families which have been declared under this program 1949 to 1958 inclusive.

NAMES OF HOMES ACT

With 41 registrations this year, the total number of names of homes now registered under this Act is 324.

FARM WATER SUPPLY ASSISTANCE POLICY

Number of dugouts subsidized this year	130
Total 1945 to date	2,582

A development of this policy during the past year has been the application for a second subsidy from farmers in the Peace River area, whose dugouts have silted in and become inadequate. In addition, petitions have been received from three areas in the Province requesting that the policy be made applicable to their districts. These petitions are presently under consideration.

PUBLICATIONS

During the year the following numbers of publications on agriculture and homemaking have been distributed to the public:

Agriculture	154,281
Homemaking	63,280
TOTAL	217,561
Printed or reprinted during the year	46

VISUAL AIDS

At the end of the year the following visual equipment is in use in this Branch:

Motion picture projectors	8
Slide Projectors	39
Films owned	39
Films on loan	74

A total of 574 films were shown at 382 public meetings, to a total of 18,205 persons.

STATISTICS

The Dominion Bureau of Statistics is the principal agency dealing with agricultural statistics in Canada. The Statistics Division of the Alberta Extension Services co-operates with the Bureau. The present arrangement has grown out of many years experience, with adjustment between the two agencies taking place on a continuing basis. Usually a Dominion-Provincial Conference on Agricultural Statistics is held about the end of November each year but the 1958 meeting has been postponed until February 1959.

Census data provide the basis for agricultural statistics in Canada, with the Agriculture Division of the Bureau providing annual estimates of livestock numbers, crop acreages and yields, farm income, etc., based on mailed questionnaires to farmers, marketing reports and so forth.

The first farm income and expenditure survey conducted by the bureau on the basis of personal interview is presently in progress. The field work for Alberta was done in November. One of the principal purposes of the survey is to provide data for the revision of indices related to prices of commodities and services used by farmers, etc., farm income and expenditure statistics and farm living expenses.

In co-operation with the Field Crops Branch, this Division continued the work of developing a method of estimating forage crop seed production.

Eleven crop reports and an autumn summary describing agricultural conditions were issued in 1958. Thirteen summaries of crop conditions were prepared for publication by the Dominion Bureau of Statistics. Grateful acknowledgment is hereby extended for the co-operation of some 250 crop correspondents without whose help our crop reporting service would not be possible.

Monthly statistics on income from the sale of principal farm products in Alberta were prepared for publication in "General Summary of Statistics" issued by the Department of Industries and Labour.

The services provided by the Statistics Division continue to be sought by the public as well as departmental staff.

The Crop Year

Moisture conditions were generally good in the spring. However, April was a cold month and pastures were slow. A warm dry May favoured rapid progress with seeding and by June 4 operations were practically completed.

The amount of wind prevailing in the spring was above normal and some erosion resulted. In mid June frost damaged crops in Peace River and north eastern areas. Gardens, barley and rapeseed suffered most damage.

Widespread showers occurred during June and July but the amount of moisture received varied greatly between districts. Conditions were fairly good to excellent in southern and western regions; in eastern, northern and Peace River areas, precipitation failed to meet the needs of the growing crops and drought took a toll.

Red-backed cutworm did considerable damage in parkland, foothills and wooded areas. The Edmonton-Morinville-Westlock area was most severely affected. However, reseeding repaired most of the damage done. Beet webworm attacked sugar beets, flax, mustard, rapeseed and other crops in the south. The presence of sweet clover weavil was reported from many points. Grasshopper damage was light owing to good growing conditions in the area affected.

Hail damage was below normal. A single storm extending from Claresholm to Carmangay, Vauxhall and the Saskatchewan border accounted for a high proportion of the losses sustained.

Hot weather in August advanced crops rapidly and the harvest was unusually early. Except for rain in September a record might have been set. The unequal distribution of rainfall was reflected in variable yields. Good crops were harvested west of a line extending from about Manyberries to Drumheller and Leduc; for a varying distance east of this line yields were fair; in east-central, northern and Peace River areas crops were generally light. However, the character of the season permitted the full use of all the moisture available where good farming practices were followed.

The Alberta Wheat Pool estimated that cereal grades in 1958 were better than in 1957. A summary of quality estimates for the two years follow:

WHEAT

	No. 1°	No. 2°	No. 3°	No. 4°	5, 6 & feed	Garnet	Durum	Winter	Other
1957	.....	13	25	34	18	1	7	1	1
1958	1	45	38	8	2	1	3	2	.....

OATS

	2 C.W	X 3 C.W.	3 C.W.	X1 fd.	1 fd.	2 fd.	Other
1957	.....	1	2	21	56	16	4
1958	1	1	5	29	54	8	2

BARLEY

	1 to 4 C.W. 6-Row	1 to 3 C.W. 2-Row	Feed Grades
1957	18	8	74
1958	29	12	59

Initial Canadian Wheat Board payments for 1958-58 deliveries are; Wheat No. 1° basis Lakehead or Vancouver, $1.40; Oats 2 C.W. and barley 3 C.W. 6-rowed, basis Lakehead was 60 and 96 cents respectively.

The area devoted to the production of forage crop seeds increased in 1958 and better yields were obtained. All were harvested in good condition except that a heavy loss in alsike occurred owing to a short stand and damp weather that increased shattering.

ESTIMATED PRODUCTION AND VALUE OF FORAGE CROP SEED—1957 AND 1958

	Production		Value	
	1957	1958	1957	1958
	— pounds —		— dollars —	
Alfalfa	300,000	1,800,000	60,000	486,000
Alsike Clover	5,000,000	10,000,000	750,000	1,400,000
Red Clover	3,550,000	5,000,000	500,000	1,008,000
Sweet Clover	4,000,000	5,000,000	120,000	300,000
Timothy	250,000	1,000,000	20,000	120,000
Brome Grass	2,700,000	5,000,000	189,000	450,000
Crested Wheat Grass	150,000	475,000	22,000	71,000
Creeping Red Fescue	6,500,000	13,250,000	1,235,000	2,120,000
Kentucky Blue Grass	160,000	80,000	80,000	80,000
Other	15,000	168,000	1,000	109,000
TOTAL			2,977,000	6,144,000

ESTIMATED AREA, PRODUCTION AND VALUE OF FIELD CROPS, ALBERTA 1957 AND 1958*

	Area		Yield per acre		Production		Value per Unit		Total Value	
	1957	1958	1957	1958	1957	1958	1957	1958	1957	1958
	— acres —		— bushels —		— bushels —		— dollars —		— dollars —	
Wheat	4,881,000	4,704,000	19.1	20.4	93,000,000	96,000,000	1.33	1.35†	123,690,000	129,600,000
Oats	2,791,000	2,809,000	34.4	34.5	96,000,000	97,000,000	0.50	0.51†	48,000,000	49,470,000
Barley	3,714,000	3,846,000	25.8	27.8	96,000,000	107,000,000	0.74	0.75†	71,040,000	80,250,000
Rye	114,000	99,700	16.7	17.1	1,900,000	1,700,000	0.81	0.81	1,539,000	1,377,000
Flaxseed	572,000	556,000	8.6	11.7	4,900,000	6,500,000	2.55	2.61	12,495,000	16,965,000
Mixed Grain	215,000	225,000	29.3	32.9	6,300,000	7,400,000	0.58	0.67	3,654,000	4,958,000
Peas (dry)	8,500	3,600	19.5	25.8	166,000	93,000	2.70	3.00	448,000	279,000
			— cwt. —		— cwt. —					
Potatoes	16,600	18,700	84.0	84.5	1,400,000	1,580,000	2.77	2.09	3,878,000	3,302,000
			— pounds —		— pounds —					
Mustard Seed	92,000	87,000	772	805	71,000,000	70,000,000	0.035	0.028	2,485,000	1,960,000
Rapeseed	70,000	80,000	741	650	51,870,000	52,000,000	0.03	0.024	1,556,000	1,248,000
Sunflower Seed	......	3.700	......	750	......	2,775,000	......	0.05	......	139,000
			— tons —		— tons —					
Tame Hay	1,887,000	1,996,000	1.26	1.25	2,370,000	2,500,000	15.25	16.75	36,142,000	41,875,000
Sugar Beets	36,700	38,300	13.43	15.71	492,870	601,201	13.23	12.50†	6,521,000	7,515,000
Miscellaneous Crops	......	......	......	......	......	......	......	......	17,476,000	18,209,000
Total Acreage and Value of Field Crops	14,397,800	14,811,700	......	......	......	......	......	......	328,924,000	357,147,000

*Preliminary.

†Estimates prepared by the Alberta Department of Agriculture.

Hay yields varied a great deal and, on the average, were low; the quality was good. However, considerable hay in bale and stack was damaged by heavy rains in September. Reports indicate that supplies of total long feed available will be sufficient in most districts to carry livestock through the winter.

Estimates of vegetables produced under contract for processing in Alberta are combined with production in Manitoba for publication. However, the area devoted to these crops was reduced somewhat in 1958. A record sugar beet crop was harvested. Mustard and rapeseed production changed little. Sunflower seed was grown on a commercial basis for the first time in Alberta and with good success. Safflower trials were continued.

Livestock

After a five-year period of expansion a 4 per cent decline in cattle numbers was estimated at June 1, 1958. A heavy demand for feeders in both Canada and the United States reduced the numbers of steers and heifers over one year old. However, breeding stock appears to have been maintained.

The number of sheep increased an estimated 4.4 per cent.

The June 1 survey showed hog numbers up 32 per cent from last year. Further expansion is indicated. The estimated number of sows farrowed June to August 1958 exceeded farrowings in the same period last year by 32 per cent; and expected farrowings for September to November are estimated at 50 per cent above 1957 figures.

NUMBER OF LIVESTOCK ON FARMS IN ALBERTA AT JUNE 1, 1956, 1957 AND 1958

	1956	1957	1958	1958 as % 1957
Cattle:				
Bulls, over 1 year	50,900	54,000	53,000	98.2
Cows:				
Milk over 2 yrs.	282,200	280,000	275,000	98.2
Beef over 2 yrs.	733,900	770,000	785,000	101.9
Heifers:				
Milk 1 to 2 yrs.	60,300	56,000	57,000	101.8
Beef 1 to 2 yrs	247,600	267,000	228,000	85.4
Steers:				
Over 1 year	359,900	408,000	300,000	73.5
Calves	714,400	765,000	802,000	104.8
TOTAL	2,449,200	2,600,000	2,500,000	96.2
Sheep:				
1 year and up	219,400	226,000	252,000	111.5
Lambs	185,400	224,000	235,000	104.9
TOTAL	404,800	450,000	487,000	108.2
Hogs:				
6 months and up	337,300	360,000	480,000	133.3
Under 6 months	874,200	940,000	1,230,000	130.8
TOTAL	1,211,500	1,300,000	1,710,000	131.5
Horses	154,700	140,000	132,000	94.3

The total value of meat animals produced in Alberta increased from $193,867,000 in 1957 to $243,058,000 in 1958. Record production and high prices paid for beef accounted for a major part of the increase. Heavier marketings and modest increases in prices characterized the situation in the sheep industry. In the case of hogs lower average prices were more than balanced by heavier marketings and higher inventories.

PRODUCTION AND VALUE OF LIVESTOCK IN ALBERTA 1957 AND 1958

	Number		Value	
	1957	1958	1957	1958
Cattle	686,518	706,401	99,016,000	127,715,000
Calves	245,565	223,086	14,665,000	20,423,000
Sheep and Lambs	198,189	191,031	3,072,000	3,163,000
Hogs	1,806,066	2,370,948	77,114,000	91,757,000
TOTAL VALUE OF LIVESTOCK			193,867,000	243,058,000

Livestock Products

The number of milk cows in Alberta decreased from 282,200 in 1956 (Census) to an estimated 275,000 in 1958. However, farm cash income from the sale of dairy products continued to decrease. Income from all items except butterfat and milk for cheese making were recorded. Lower prices for eggs and increased production of poultry meat combined to maintain the value of poultry production.

ESTIMATED NUMBER OF POULTY ON FARMS IN ALBERTA AT JUNE 1, 1956 TO 1958

	1956	1957	1958	1958 as % 1957
Hens and Pullets 6 months and over	2,642,000	2,900,000	3,010,000	104
Pullets 2-6 months	1,367,000	1,225,000	1,340,000	109
Cocks and Cockerels 2 months and over	880,000	875,000	950,000	109
Chicks under 2 months	4,555,000	4,750,000	4,500,000	95
Total hens and chickens	9,444,000	9,750,000	9,800,000	101
Turkeys	820,000	860,000	975,000	115
Geese	86,000	80,000	78,000	98
Ducks	99,000	90,000	90,000	100

ESTIMATED PRODUCTION AND VALUE OF PRINCIPAL LIVESTOCK PRODUCTS 1957 AND 1958

	Production		Price per Unit		Total Value	
	1957	1958	1957	1958	1957	1958
	— pounds —		— dollars —		— dollars —	
Dairy Products						
Butterfat for creamery butter	26,372,000	28,147,000	0.62	0.66	16,480,000	18,555,000
Dairy butter	2,660,000	2,643,000	0.56	0.59	1,490,000	1,559,000
	— hundred pounds —					
Milk and fat for ice cream	515,610	555,220	2.57	2.85	1,324,000	1,581,000
Milk for cheese and concentrating	651,040	641,620	2.60	2.74	1,696,000	1,792,000
Milk and cream for fluid sales	3,401,940	3,484,030	4.23	4.34	14,381,000	15,111,000
Milk consumed on farms	1,526,000	1,514,000	2.50	2.62	3,815,000	3,967,000
Milk for farm animals	581,000	596,000	2.50	2.62	1,452,000	1,547,000
Skim milk etc. fed on farms	7,235,180	7,663,730	0.35	0.35	2,532,000	2,683,000
Total Value					43,170,000	46,795,000
Poultry Products						
	— dozen —					
Commercial eggs	48,506,000	46,286,000	0.29	0.30	14,271,000	13,676,000
Hatching eggs	1,357,000	1,316,000	0.60	0.59	810,000	776,000
	— pounds —					
Poultry meat (eviserated)	46,292,000	44,360,000	0.34	0.34	15,623,000	15,169,000
Total Value					30,704,000	29,621,000
Honey	6,459,000	7,574,000	0.16	0.15	1,081,000	1,187,000
Wool	1,778,000	1,925,000	0.38	0.47	676,000	902,000
	Value pelts		Value live exports			
Fur farming	2,436,000	2,245,000	70,000	46,000	2,506,000	2,291,000
Miscellaneous livestock products	....	....	....	....	5,693,000	6,501,000
Total Value Livestock Products					83,830,000	87,297,000

SUMMARY OF PRODUCTION AND VALUE OF AGRICULTURAL PRODUCTS IN ALBERTA, 1955-1958

	1955	1956	1957	1958
	— thousand dollars —			
Wheat	175,560	169,400	123,690	129,600
Other Grains	168,197	185,803	136,728	153,020
Other Field Crops	57,917	53,560	68,506	74,527
Total Field Crops	401,674	408,763	328,924	357,147
Livestock	164,468	161,783	193,867	243,058
Dairy Products	39,713	40,526	43,170	46,795
Poultry Products	30,086	33,438	30,704	29,621
Other Livestock Products	5,890	8,545	9,956	10,881
Total Livestock and Products	240,157	244,292	277,697	330,355

UTILIZATION OF IMPROVED FARM LAND

	1941*	1946*	1951*	1956*	1958†
	— thousand dollars —				
Field Crops:					
Principal Cereals‡	11,326	11,591	12,819	12,621	12,240
Tame Hay§	602	874	1,206	1,614	1,996
Other Fodder Crops	268	280	283	400	400
Potatoes and Sugar Beets	48	56	54	56	57
Other Field Crops**	10	39	48	148	206
TOTAL FIELD CROPS	12,254	12,840	14,410	14,839	14,899
Garden, Orchard etc.	29	26	18	11	11
Improved Pasture	626	731	1,113	1,280	1,460
Summerfallow	6,546	6,012	6,195	7,091	7,017
Other Improved Land	670	423	535	525	525
TOTAL IMPROVED LAND	20,125	20,032	22,271	23,746	23,912

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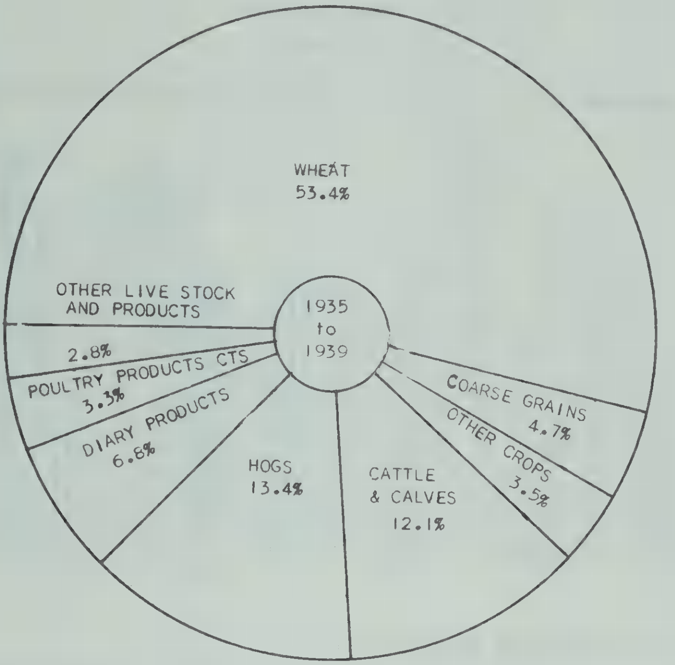
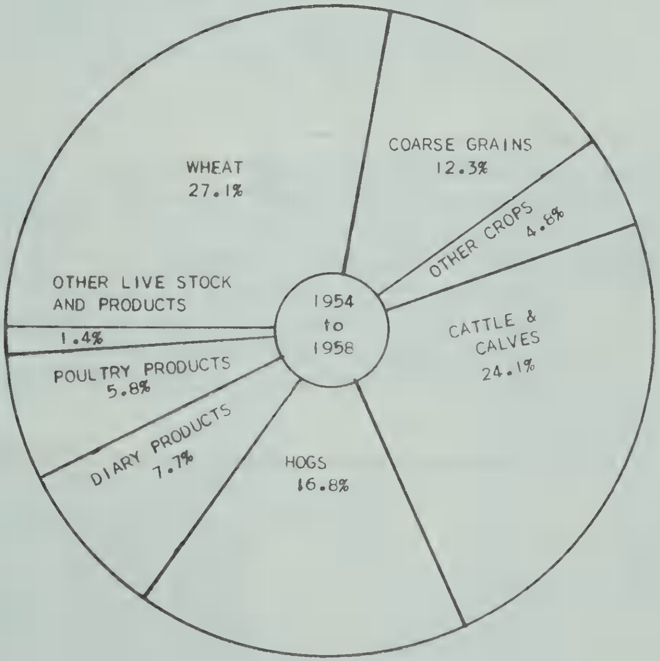
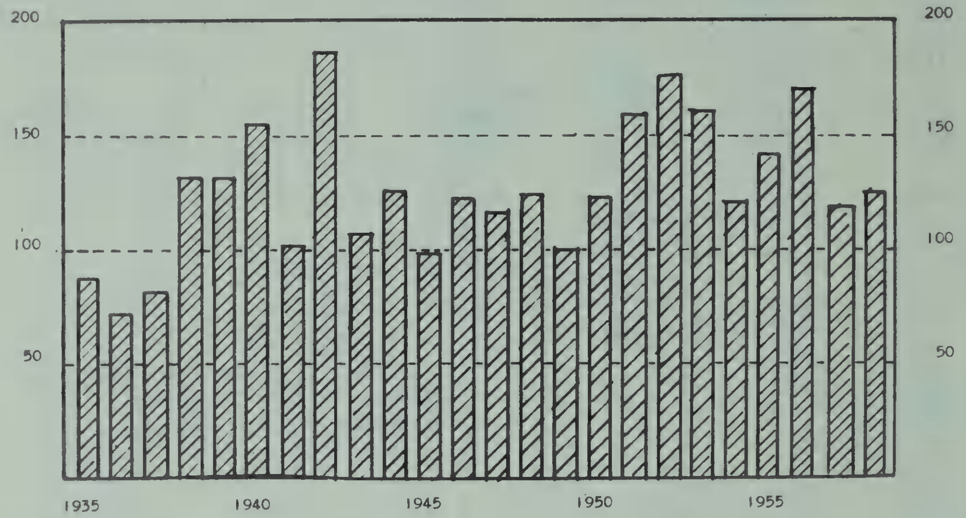
*Census of Canada. †Estimated. ‡Wheat, oats, barley, rye and flaxseed. §Includes areas in forage crop seeds. **Mustard, rapeseed, dry peas, sunflowers, safflower, vegetables, etc.





SOURCE OF INCOME FROM THE SALE OF FARM PRODUCTS

INDEX NUMBERS OF THE PHYSICAL VOLUME OF AGRICULTURAL
PRODUCTION, ALBERTA, 1935 - 1958
(1935 - 39 = 100)



Index of Agricultural Production

The index of the physical volume of agricultural production (1935-39=100) increased from 115.2 in 1957 to 124.4 in 1958. This compares with a low of 71.0 in 1936 and a high of 184.2 in 1942. The expansion of live stock production in recent years, has tended to reduce fluctuations in the physical volume of agricultural production.

Farm Cash Income

Farm cash income from the sale of farm product totalled $481.5 million in 1958 compared with $437.9 million in 1957 and the all-time high of $508.6 million in 1952. The proportion of cash income obtained through the sale of crops was 44.2 per cent in 1957 and 38.1 per cent in 1958. Live stock production is becoming increasingly more important. The percentage of farm cash income derived from live stock and live stock products for the past three decades were: 1926-35, 30.2 per cent; 1936-45, 49.7 per cent; and 1946-55, 45.7 per cent.

NET INCOME OF FARM OPERATORS FROM FARMING OPERATIONS

	1955	1956	1957	1958
	— thousand dollars —			
Cach income from the sale of farm products	369,411	436,653	437,895	481,535
Income in Kind*	39,203	41,526	40,679	43,497
Value in Changes in inventory	43,908	53,022	-41,623	-30,082
Gross income	452,522	531,201	436,951	494,950
Operating expenses and Depreciation	249,099	257,952	252,390	264,622
Net Income from Farming operations	203,423	273,249	184,561	230,328
Supplementary payments†	5,776	1,319	905	19,394
NET FARM INCOME	209,199	274,568	185,466	249,722

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*Includes estimated rent of farm homes.

†P.F.A.A. and (in 1958) Western Grain Producers' acreage payments.

CASH INCOME FROM THE SALE OF FARM PRODUCTS AND SUPPLEMENTARY PAYMENTS*

	1956		1957		1958	
	$'000	% of Total	$'000	% of Total	$'000	% of Total
Field Crops:						
Wheat	134,531	30.7	115,710	26.4	111,665	22.3
Oats	11,418	2.6	8,986	2.1	5,494	1.1
Barley	34,543	7.9	28,572	6.5	32,892	6.5
Wheat Board Advances	....	.....	4,375	1.0	335	.1
Rye	3,857	.9	1,086	.2	1,666	.3
Flaxseed	10,215	2.3	14,113	3.2	9,707	1.9
Forage Seeds	4,949	1.1	2,977	.7	3,912	.8
Potatoes	1,983	.5	1,679	.4	1,807	.4
Vegetables	2,751	.6	2,860	.6	2,782	.6
Sugar Beets	6,579	1.5	8,367	1.9	7,605	1.5
Other Crops	5,122	1.2	4,923	1.1	5,363	1.1
Total Field Crops	215,948	49.3	193,648	44.1	183,228	36.6
Live Stock:						
Cattle and Calves	87,776	20.0	110,704	25.3	149,822	29.9
Sheep and Wool	2,748	.6	3,216	.7	3,596	.7
Hogs	67,258	15.4	65,442	15.0	77,737	15.5
Dairy Products	31,253	7.1	33,912	7.7	37,071	7.4
Poultry Products	26,591	6.1	25,948	5.9	24,479	4.9
Honey	765	.2	1,025	.2	1,158	.2
Fur Farming	2,177	.5	1,855	.4	2,085	.4
Other Live Stock	2,137	.5	2,145	.5	2,359	.5
Total Live Stock	220,705	50.4	244,247	55.7	298,307	59.5
P.F.A.A. and Acreage Payments	1,319	.3	905	.2	19,394	3.9
Total Farm Cash Income	437,972	100.0	438,800	100.0	500,929	100.0

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*Interim and final payments made by the Canadian Wheat Board on participation certificates (wheat, oats, barley) are included in the calendar year in which payments were received by farmers.

FARM OPERATING EXPENSES AND DEPRECIATION CHARGES

	1955	1956	1957	1958
		— thousand dollars —		
Taxes*	18,099	19,149	19,245	19,179
Gross Rent	18,967	19,500	14,630	15,648
Hired Labour	24,170	25,390	24,000	24,931
Interest on Indebtedness	7,342	7,470	7,606	8,062
Feed and Seed†	15,036	14,038	13,686	14,059
Tractor	35,359	38,197	38,072	41,300
Truck	20,457	20,609	21,588	23,559
Automobile‡	8,264	8,615	8,717	9,169
Engine and Combine	3,596	3,959	3,886	4,427
Machinery Repairs and Shop Charges	12,173	13,251	13,733	14,095
Fertilizer	2,755	3,136	3,549	4,565
Fruit and Vegetable Supplies	3,318	3,270	3,353	3,485
Building Repairs	8,478	9,400	8,643	9,498
Electric Power	1,095	1,334	1,441	1,521
Miscellaneous	13,150	14,873	15,209	16,196
Total Operating Expenses	192,259	202,191	197,358	209,694
Depreciation, Buildings and Machinery	56,840	55,761	55,032	54,928
Total Operating Expenses and Depreciation	249,099	257,952	252,390	264,622

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*Owned land and buildings only.

†Purchased through commercial channels.

‡Farm business share.

IRRIGATION

Irrigation Extension has expanded its service to irrigation farmers and to the management of the irrigation district over previous years. An increasing number of farmers are making use of the relatively new service and profit by the application of sound irrigation practices. Offices were again maintained in Lethbridge, Taber, Bow Island, Medicine Hat, Enchant, and a camp at Brooks.

Land Development for Irrigation Systems

More attention was paid during the last year to the design and development of improved irrigation systems, along with land levelling. A total of 135 designs were recommended for irrigation systems with twenty-five of these border dyked to provide a greater degree of water control and to reduce the amount of labour required and increase crop production. Such designs enable the irrigator to handle larger quantities of water and enable him to irrigate a larger acreage each day.

Land Levelling

During the year, a total of 181 parcels received supervised land levelling as compared with 84 parcels in 1957. Land levelling was done both on colonization lands and on privately owned land. A beginning was made to provide design and supervision to land levelling in the Eastern Irrigation District in general. It was difficult to keep up to the demands for this service.

Two Hancock elevating scrapers pulled by rubber tired tractors, enabled our staff to move earth at less cost than with the track type equipment. Although a considerable amount of mechanical difficulty was experienced with this new equipment, a worthwhile improvement in efficiency has been experienced.

Farmers with more adequate finances are taking greater advantage of our land development program and there is an increasing demand for the service from year to year. A relatively small number of irrigation farmers have been able to finance land development work. It is becoming increasingly apparent that some form of long-term financing will be necessary, if the majority of these farmers are to take advantage of the land development services offered. Most of the land development work may be considered as a permanent improvement to the land, which would also increase the value of the land and justify long-term loans.

Irrigation Services and Demonstrations

The "Irrigation Gauge" was introduced in 1958 to give farmers up-to-date soil and water information that would enable them to irrigate at the proper time and with the required amount of water. The local newspapers and radio stations assisted in publicizing this information. "Irrigation Gauges" were located at Lethbridge, Enchant, Taber, Bow Island and Seven Persons.

Irrigation Field days were held at Medicine Hat, Brooks and Enchant. Demonstrations were conducted to show land levelling procedures, equipment used and methods of spreading and handling water. The demonstrations were considered particularly valuable because they were conducted on a scale comparable to that found on average irrigated farms.

A new service was provided this year in helping farmers to determine the amount of water to apply to their land and to the particular crops they are growing. Infiltration tests were conducted to assist in determining the correct length of irrigation runs for the particular soil and crop involved.

Farm Visits and Contacts

An increasing amount of the District Irrigationist's time is being spent on farm visits and office calls. These visits and office calls lay the ground work for the effective field work which may follow.

Surveys

There is a fairly constant demand on survey crews to locate farmers' head and field ditches. Where survey stakes are lost through carelessness or neglect, a nominal charge is made for re-survey.

Land Classification

Land classification and soils investigations were carried out on the new areas proposed for irrigation, including Enchant, Taber, Readymade, the High Line and the East Verdigris Project. Much work has been done towards standardizing land classification procedures. Procedures and standards now used have gained general acceptance by professional soils and irrigation specialists. The land classification is not considered final or official until approved by the manager of the Irrigation District.

Drainage

All drainage problems arising from seepage claims and complaints are channelled through the Drainage Committee, composed of the Colonization Manager, representatives of the Water Resources Branch, the Irrigation Extension Service and the St. Mary and Milk Rivers Development. An effort is made to precede any design and construction of drains by a reasonably adequate amount of soil investigation. This often involves a large number of drill tests and soil sample analysis.

Aerial Photography

Two hundred and twenty-two quarters of land were surveyed by aerial photography in the Enchant, Taber and Readymade areas. This procedure speeds up the survey and drafting and reduces the overall cost.

A considerable amount of time was spent by various members of the staff in providing information for the management of the irrigation districts and in attending meetings of the Advisory Committee to the Colonization Manager. Some staff members assisted with the development and supervision of the new irrigated Community Pasture in the Purple Spring district. The success or failure of this Pasture may have far reaching effects in future establishments.

Statistical Summary

Land Levelling

The services provided under this heading include surveying, designing, supervision, survey checking and providing equipment to do the necessary work. A part of this service is free to the farmer, which it is estimated costs approximately five dollars per acre of land improved. The actual land leveling cost is charged to and paid by the land owner.

Parcels completed	181
Acreage completed	4,074
Cost per acre improved (average)	$35.00
Acreage only partly completed, to be finished in 1959	2,676
Miscellaneous jobs, including dugouts	9
Total accumulative jobs since 1950	513
Total accumulative area of acres improved since 1950	22,524

Irrigation Methods

Investigations made re methods	73
Parcels on which improved method applied	67
Tests made on design, structures and equipment	350

Irrigation Services

Farm Contacts	216
Head Ditch Surveys	226
Field Ditch Surveys	243
Practical irrigation assistance	23

Land Classification

Projects classified	13
Quarter-sections classified	1,678
Irrigable acreage classified	89,522

Irrigable Acreage Classification

Parcels completed	551
Irrigable acreage (classified)	38,399
Parcels partly completed to be finished in 1959	378
Irrigable acreage partially complete	30,400

Aerial Photography

Parcels aerial photographed	222
Irrigable acreage aerial photographed	13,168

Drainage Investigations

Drainage investigations include logging of soil profiles to a depth of 15 feet by use of sterling drill.

Projects completed	27
Estimated acreage involved	12,500
Estimated acreage partially complete, to be finished in 1959	14,700

Soil Analysis

Samples analysed in own laboratory	3,358
Samples analysed at University of Alberta by our own staff	2,929
Field analysis for soil permeability	409
Soil borings made by Sterling drill	1,865
Installations for soil drainage studies	158
Readings of above installations	2,602

Inspections

Inspections, including those for land and irrigable classifications, land levelling, colonization, farm irrigation systems, drainage survey procedures, drafting, equipment and irrigation practices.

Field inspections	2,481
Office inspections	1,050

Reports

Major reports of all kinds	144

Miscellaneous Services

The miscellaneous services include head ditches, field ditches, drain courses, seepage area, chaining boundaries and dugouts.

Total surveys	428
Approximate time (man days)	371

Miscellaneous Drafting

Miscellaneous drafting, including plotting, checking irrigable acreages, checking and correcting tracings, plotting railways, general plans, soil lines, borders, signs and posters.

Miscellaneous drafting jobs	841
Approximate time (man days)	371

Maps, Plan Reports, Bulletins and Newsletters

Total number issued	9,665

Meetings, Field Days, Demonstrations, Short Courses, Including Two Weeks at Olds School of Agriculture

Number participated in	26
Attendance	1,637
All other types of meetings, etc., attended	189

Miscellaneous

Farm visits	1,041
Office interviews and visits	1,981
Telephone calls (long distance only)	1,267
Letters and memos written	1,632

AGRICULTURAL ENGINEERING

Part-time Staff

C. W. Kirk—Summer assistant (Olds School of Agriculture)
V. W. Osbaldeston—Summer assistant (Fairview School of Agriculture)
G. L. Shanks—Rural electrification instructor
J. L. Marr—Rural welding instructor
T. A. Tape—Rural welding instructor

Interest in farm buildings and utilities was more evident than at any time during the last ten years, and work in these related fields, at schools and demonstrations, often precluded other activities that had been requested.

The Farm Mechanics Instructors from the Schools of Agriculture at Olds and Fairview gave excellent assistance from May through September, and much of the survey work, as well as demonstrations of machinery and sewerage installations, was done by them. Rural electrification schools had consistently high attendance. *The number attending the rural welding schools showed a decline from 500 to 477, but this was due to strict enforcement of the maximum number of students per class to 24 (the number that can be handled with equipment available). Because of the keen demand for welding courses, a second instructor and school was put on the road for the 1958-59 season; this accounts for the greater number of schools reported. As a result of work in the plumbing and sewerage field, the number of reuseable septic tank forms available from Municipal Districts, Counties, L.I.D.'s and Special Areas increased from 15 to 33 during the year.

The number of individual contacts increased sharply, but in spite of this it was impossible to keep up with the demand, largely for information on buildings, so the series of four refresher courses in farm buildings was conducted for the D.A. staff, but was attended by members of other Branches, as well as some of the V.L.A. and Experimental Farms' staff. In addition, five buildings schools were held for the public, from which has grown a demand for more of these schools than can be handled by present staff.

The extent to which the ever increasing demand for agricultural engineering can be satisfied is limited by available staff. There is no apparent evidence that the demand will abate. The great amount of field work is reflected in a lesser amount of office time and correspondence has been adversely affected.

Activities of the Branch in the field of Agricultural Engineering are shown hereunder in tabular form with 1957 figures for comparison. The listing reflects the work in three basic parts, namely, groups, individuals and staff instruction.

	1957		1958	
Activity	Number	Attendance	Number	Attendance
	Group Approach			
Schools:				
Building	Nil	......	5	330
Water and Sewerage	12	700	27	1,450
Rural Electrification	17	677	18	990
Rural Welding	18	500*	20	477
Demonstrations and Field Days:				
Water and Sewerage	14	800	26	1,100
Machinery	25	1,475	23	2,000
Short Courses and Meetings	248	11,340	235	8,904
Farm Notes	12	....	8	....
Radio and T.V. Programs	14	....	.....	....
Plan production	11 sets	....	8 sets	....
Bulletin revision	1	....	.....	....

			Individual Approach	
Farm calls	252	....	446	....
Office calls	......	....	162	....
Letters written	750	....	700	....
Surveying services	41	....	73	....
Otherwise assisted	2,872	....	5,461	....
			Staff Instruction	
D.A. office calls	109 at 37 offices	....	167 at 39 offices	....
Refresher courses (Buildings)	Nil	....	4	70

FIELD CROPS

This phase of work has been recorded under eight headings:

1. Soil Conservation
2. Weed control
3. Forage Crop Improvement
4. Grain Crop Improvement
5. Crop Pests and Diseases
6. Animal Pest Control
7. Horticulture
8. Agricultural Service Boards

Responsibility for administration of policies, regulatory duties and provision for specialists rests with the Field Crops Branch. However, the District Agriculturist Service is responsible for Extension activities at the local level. The District Agriculturists carry out these duties largely with individual farmers or through Agricultural Service Boards. Some of the major considerations include technical and practical information on the various problems such as: erosion control, suitable crop rotations, soil testing, fertilizers, identification and control of weeds, crop and animal pests and diseases, grasses for hay and pastures and silage, grain varieties, seed cleaning plants, tree planting and farmstead planning.

A summary of these activities include:

1. **Soil Conservation**	
Special projects	98
Farms participating	279
Demonstration fields	127
Seen by	1,616
Meetings, short courses, etc.	110
Attendance	3,770
Soil samples forwarded for analysis	1,535
Persons otherwise assisted	2,469
2. **Weed Control**	
Community Cleaning plants assisted	49
Farm cleaning plants assisted	60
Seed drill survey samples submitted	398
Demonstrations	120
Seen by	1,092
Meetings and short courses	206
Attendance	5,613
Persons otherwise assisted	5,496
3. **Forage Crop Improvement**	
Farmers participating in projects	478
Demonstrations and field days	65
Attendance	1,974
Persons otherwise assisted	5,187
4. **Grain Crop Improvement**	
Farmers participating in projects	60
Demonstrations and field days	44
Attendance	1,393
Registered seed—bushels instrumental in distributing	36,505
Commercial seed—bushels instrumental in distributing	403,400
Persons otherwise assisted	3,678
5. **Crop Pests and Diseases**	
Meetings and demonstrations	58
Attendance	2,172
Specimens forwarded for identification	391
Persons otherwise assisted	3,567

6. **Animal Pest Control**

Farmers participating in coyote control	3,327
Coyotes killed	34,900
Estimate value livestock saved	$313,000
Farmers influenced to control warbles, lice, ticks, keds, etc.	3,317
Demonstrations and meetings	83
Attendance	1,947
Specimens forwarded for identification	56
Persons otherwise assisted	1,996

7. **Horticulture**

Meetings, demonstrations, etc.	99
Attendance	3,487
Farmstead plans assisted	583
Shelterbelt plans assisted	1,006
Trees planted	1,753,501
Demonstration orchards	53
Persons otherwise assisted	4,041

8. **Agricultural Service Boards**

The District Agriculturist is the Departmental representative on the Board.

Meetings attended	334
Farms under supervision	390
Features—projects, tours (not reported elsewhere)	88
Persons otherwise assisted	1,492

LIVESTOCK

The Livestock Branch administers the acts and policies pertaining to this section and provides specialist services. Extension activities are carried out by District Agriculturists. Some of the work in this field includes information and advice regarding livestock placements, artificial insemination units, herd and flock selection, registration of animals, brands, dehorning, feed analysis, livestock marketing, bangs vaccination, T.B. testing, livestock nutrition and diseases, swine quality competitions and specimens for diagnosis.

Activities of the Extension staff in livestock work are reflected in the following three categories:

1. **Livestock Improvement**

Special projects	71
Farmers participating	2,865
Livestock affected	37,328
Demonstrations, meetings, short courses	446
Attendance	9,657
Herds or flocks selected or culled (including dairy)	680
Feed samples forwarded for analysis	373
Farmers assisted with pedigree registration	1,417
Farmers using Departmental dehorners	1,247
Livestock placements—(total of male and female):	
Horses	45
Cattle	2,563
Sheep	3,619
Swine	2,497
Poultry	1,063
Persons otherwise assisted	10,284

2. **Livestock Marketing**

Public sales assisted (excluding Calgary and Edmonton)	108
Animals sold at these	34,393
Persons otherwise assisted	2,001

3. **Animal Health**

Farmers participating Bang's vaccination	53,018
Farmers assisted T.B. testing	7,988
Specimens forwarded for diagnosis	309
Enquiries and recommendations	3,078
Demonstrations and meetings	114
Attendance	4,568
Persons otherwise assisted	2,140

DAIRYING

Extension efforts have been directed toward improvement of herds, better feeding, low cost housing and more economical handling of dairy cattle and dairy products.

Special projects re improved husbandry	23
Farmers participating	379
Farmers influenced re cow testing	201
Meetings, demonstrations, field days	75
Attendance	1,778
Persons otherwise assisted	1,799

POULTY PLEBISCITE

The field staff of the Extension Branch were appointed as Deputy Returning Officers. An aggregate of 21,096 man hours was spent in this work by the 43 District Agriculturist offices during June and July of this year.

FARM MANAGEMENT

The position of Farm Management Specialist in the Alberta Department of Agriculture is a relatively new appointment, the position being filled for the first time in January, 1958.

The office of the farm management specialist is presently in conjunction with the Farm Cost Studies' staff of the Dairy Branch, a very compatible arrangement from certain points of view, but one which suffers some disadvantages in isolation from the Extension Branch.

The Farm Management Specialist visited the offices of the District Agriculturists to determine the nature of their farm management problems. Most felt that the particular farm management techniques of farm accounting, farm business analysis and budgeting or planning were especially lacking on a large number of farms. Many also expressed the opinion that they were not so well qualified in these aspects as they felt they should be. A better working knowledge of basic economic theory and farm management principles was also high on the priority list, due largely to the lack of this training at the graduate level. Outlook and marketing data were indicated as being very important. However, most felt that immediate priority should be given to methods of improving the particular techniques of farm accounting, analysis and budgeting in order to obtain the largest immediate returns in the form of improved business decision making on the part of farm operators and their families. It was also pointed out that there was a critical lack of local basic material required for effective planning or budgeting. They felt that the general lack of good farm records across the Province had made it very difficult for any research body to gather and compile these essential data by type of farming regions on a sufficiently local basis to be adequate. Nearly all expressed the desire to see an expansion of farm business studies similar to those conducted by the Farm Cost Studies' staff, to include their particular areas, in order to give them farm management material for local use and interest as well as a great amount of added confidence in this field.

1. **Printed Material Compiled and Distributed:**

(a) **A Study of Fifty Mixed Farms—Leduc-Wetaskiwin Area**

Since publication in 1956 some 1,000 of these 45 page reports have been released with approximately 300 being distributed in 1958. This publication deals with the general aspects of farm accounting, the theory behind farm business analysis, and portrays the average management levels, income, expenses and cost of production for some of the major farm products in this area. Most District Agriculturists have used this bulletin as an introduction to their short courses and workshops on farm management.

(b) **Farm Business Analysis—Quick Appraisal Form**

This is a seven page work form dealing with the main aspects of farm business analysis for those farmers who have no, or at least very few written farm records. Dealing with a very minimum of essential farm business information the analysis form is naturally limited in the way of detailed analysis results, but has proved sound in principle, and has been well received. With limited farm records it attempts to rate the farm business in the major farm management success factors and to point out those that appear to be weak, average and strong compared to district standards. In 1958 approximately 2,500 of these were printed and distributed to District Agriculturists.

(c) **Farm Accounting Worksheets**

Worksheets representing the principal financial pages of a simple farm account book were drawn up and made available to District Agriculturists for their use as teaching aids. A very simple exercise was included which, when completed as an accounting project, indicated the operator's net farm income, labour earnings, return on investment, net worth and other total farm financial measurements. One thousand sets of these have been distributed to date.

(d) **Enterprise Analysis Sheets**

These consist of individual sheets dealing with the separate enterprises on the farm, for those who are interested in calculating the costs, returns and management levels on one or more separate enterprises on the farm.

(e) **Partial Budget Forms**

These may be used to test various alternatives within the farm business to see which change appears to offer the best possibilities. Approximately 500 of these have been used.

(f) **Other Material**

Other releases and forms of special interest were also compiled and made available to District Agriculturists.

2. **Farm Meetings and Short Courses Attended**

	No.	Attendance
(a) General short courses where farm management was a topic	11	540
(b) Workshops and short courses on farm management specifically	26	1,020
(c) Farm Management tours	1	12

3. **Individual Farm Visits**

(a) Farm records and analysis problems	85	....
(b) Father-son partnership and leasing problems	6	....

4. **Visits to District Agriculturists' Offices**

No. of visits	73	....

5. **Letters Written**

(a) District Agriculturists and staff	155	....
(b) Farmers and others	110	....

Four regional workshops for District Agriculturists were held in October at Fairview, Edmonton, Olds and Lethbridge. A four day workshop consisting of farm management specialists from the Prairie Provinces was attended early in July in Regina. This dealt with problems in farm management extension, the possibilities of cooperating on farm management publications, and uniform methods of farm accounting and analysis.

During the year four articles were written for "Farm Notes" and two for farm magazines. Four radio releases were given over

"Call of the Land", and five over private farm radio programs. A considerable amount of time also was spent as chairman of the 12 page farm management section of the proposed "Alberta Farm Guide". During the year considerable interest was shown in father-son partnership and transfer arrangements, and leasing problems. Many of these arise out of the presently highly publicized vertical integration and contract farming concepts. A project also has been started on the aspects of farm incorporation, which will cover the advantages and disadvantages of forming a farm company. This project will not be finished until 1959.

Meetings	728
Attendance	14,601
Farm visits	3,517
Otherwise assisted	1,918

Farm and Home Development is a term used to describe a method used in promoting combined farm and home management. In recent years, District Agriculturists and District Home Economists are using this method increasingly and group discussion is one of its effective techniques. The apparent reduction in activity in this phase is explained by the fact that last year's figures included the Farm and Home Improvement Program. This year that program is reported under Agricultural Societies.

Discussion groups	65
Families involved	568

HOME MANAGEMENT

The trends in homemaking continue to emphasize the importance of management. Conveniences, services and products result in more free time for other activities and increase the number of decisions to be made.

District Home Economists assist not only with the problems of management of household tasks but also encourage the broader concept of family life as a whole and emphasize how homemaking decisions affect the progress of the family toward its goals. The following figures reflect the contracts made in this field:

	No.	Attendance
Lectures and demonstrations	95	3,135
Individuals assisted	1,050	....
Home visits	461	....
Meetings	94	....

FOOD AND NUTRITION

	No.	Attendance
Demonstrations	97	5,986
Lectures	93	....
School Lunch Programs (organized and assisted)	5	....
Home visits	326	....
Individuals assisted	4,876	....

In addition, information was given at meetings at 4-H food and garden clubs and comments made on food preservation, preparation and standards at achievement days.

Seasonal information related to foods and school lunches was given through newsletters, newspaper articles, radio programs and individual assistance. Additional advice was given during many judging contacts at Fairs and other food exhibits.

Hospitals report an increase in young children of malnutrition and food allergies. Perhaps as a result of the above and of a growing understanding of our services, there has been an increase in requests for assistance with special diets.

There is a real need for consumer education and District Home Economists are active in the Canadian Association of Consumers, giving assistance in interpreting the needs and wishes of the homemaker to the producer, retailer, and industry, and conversely, advising the homemaker in consumer buying.

CLOTHING AND HOME SEWING

	No.	Attendance
Sewing Clinics (3½ days duration)	95	3,717
Demonstrations	102	2,340
Lectures	141	4,047
Individuals assisted	2,093	....
Home visits re clothing	340	....

Increasing interest of homemakers in sewing and textiles is reflected in the number of sewing clinics, which increased by 12½% over 1957 figures.

Homemakers, cautious of misleading information, request information on the merits, handling and care required for the various new developments and the District Home Economist is able to provide and interpret this information.

Recent interests include selection and buying of clothing to meet the needs of the family group, improving personal appearance, and techniques in sewing the new fabrics. The Clothing Specialist gives instruction and demonstrations in advanced sewing, judges handicraft displays, provides new information to field staff through newsletters and conferences, prepares demonstration materials and loans them, replies to letters and phone calls, trains new District Home Economists in Extension clothing programs, prepares new publications for distribution to the public, and performs other related duties.

HOME DESIGNING

	No.	Total Attendance
Lectures and Demonstrations:		
(a) Housing	14	....
(b) Decoration	98	....
		2,890
Homes Planned:		
(a) Complete	31	....
(b) Partial	61	....
(c) Building and Finishing Materials	97	....
Homes Remodelled:		
(a) Complete	41	....
(b) Kitchens	108	....
(c) Other	59	....
Major Improvements	48	....
Individuals assisted in interior decorating	1,029	....

Although building activity decreased from 1957, there was a marked interest in alteration of the present home to suit individual needs. There was a continuing demand for individual help and while time consuming, this method achieves the best results. A total of 998 home visits were made to give aid with interior work, home planning and remodelling.

Six new Home Design demonstration sets were planned. These are illustrative in nature, and intended to combine group discussion and individual aid with a lecture period. To hasten contact of people with the Home Designer, plans for housing clinics have been instituted. These aim to combine the purposes of the lecture and a home visit.

HANDICRAFTS

	No.	Attendance
Lectures and demonstrations	146	3,677
Individuals assisted	720	....

Requests for handicraft instruction are again on the increase. Crafts generally taught are considered to be of a more practical nature. The amount of instruction given by the District Home Economists depends upon the time available and individual capabilities of each Home Economist. The basic needs of the family—food, clothing, home management—are felt to be more important, and thus are given prominence in the District Home Economist's programs.

Handicraft displays continue in popularity, and the District Home Economists judge and comment upon the exhibits.

OTHER ACTIVITIES

District Home Economists arranged programs, lectured or demonstrated at 145 short courses and other meetings in co-operation with District Agriculturists, the Canada Department of Agriculture and Agricultural Service Boards. The discussion group project approach was used very successfully at short courses and other gatherings this year and new projects in Home Economics fields are being developed for use in this type of Extension.

Cooperation is also given the Department of Indian Affairs, Rural Health Units, Veterans' Land Act, and assistance given such local organizations as Relief Services, School Boards, Social Service Clubs, etc.

Topics related to etiquette, table setting, group receptions and quantity service were discussed at 68 demonstrations attended by 1,973. Individual assistance was given to 540.

Twelve lectures, attended by 595 persons, dealt with Child Guidance and Happy Family Relationships, and 50 individuals were given assistance in this field.

There were 215 general discussions outlining the services of this Branch and 49 outlining the School of Agriculture and Home Economics program with a total attendance of 10,358. In addition, specific information was given 1,050 individuals and several newspaper articles prepared.

INFORMATION AND PUBLICITY

Most of the Extension field staff write regularly for one or more newspapers, though some of the latter accept only feature articles. Radio and television are used to a limited extent and newsletters are regular features from some offices.

	D.A.	D.H.E.
Newspaper releases	1,752	921
Radio releases	485	70
Television releases	45	16
Newsletters	....	257
Newsletters circulation	....	9,720

4-H CLUBS

The organization and supervision of these Clubs in the field are responsibilities of the D.A. and D.H.E. General assistance has been given also by specialists and summer staff with Leaders' Courses, Judging Competitions, Rallies and Efficiency Weeks.

More details of Extension activities in this work will be found in the report of the Junior Activities Branch.

SUMMARY OF ACTIVITIES—AGRICULTURISTS

	1957	1958
Number of meetings	3,993	4,274
Attendance	174,246	179,377
Number of Farm Visits	22,399	24,124
Office interviews	53,739	62,597
Phone calls	45,431	52,356
Letters written	42,008	42,351

SUMMARY OF ACTIVITIES—HOME ECONOMISTS

	1957	1958
Demonstrations, lectures, field days and short courses	2,066	2,096
Fairs, conventions judged and addressed	173	232
Total attendance	95,803	95,448
Letters requesting information	22,229	23,331
Home visits	2,639	2,869
Girls' Clubs	171	143
Office interviews	4,291	5,634
Phone calls for information	8,917	9,986
Newspaper articles	910	921

Note: The small discussion group technique may account for the lower average attendance at meetings.

Report of the Veterinary Services Branch

E. E. BALLANTYNE, V.S., D.V.M., Director

J. G. O'Donoghue, V.S., D.V.M., Extension Veterinarian
C. H. Bigland, V.S., D.V.M., D.V.P.H., Veterinary Pathologist
G. S. Wilton, V.S., D.V.M., Veterinary Pathologist
H N. Vance, V.S., D.V.M., Veterinary Pathologist
F. E. Graesser, B.S.A., V.S., D.V.M., Veterinary Micropathologist
H. C. Carlson, V.S., D.V.M., Veterinary Pathologist
J. K. Morrow, V.S., D.V.M., Supervisor, Brucellosis Control
G. R. Whenham, V.S., D.V.M., Veterinary Bacteriologist
J. P. Best, V.S., D.V.M., Supervisor, Veterinary Inspection

General

During 1958, Alberta did not experience any severe epidemic diseases in poultry or animals. Swine diseases during the late Fall months increased. This was partly expected due to a 30% increase in hog numbers but newer diseases, called transmissible gastro-enteritis, Glasser's disease, gut oedema and vomiting and wasting disease, caused serious problems on many farms. Over the past two years this Branch, through the co-operation of a few swine producers, has developed an encouraging method of controlling Glasser's disease. Work is continuing on solving the other problem diseases, if possible. Mange and atrophic rhinitis have increased. Faulty management and nutrition continue to be a serious predisposing cause of a high percentage of the annual disease loss. Entry of breeding stock from considerable distances may be a factor in introducing new diseases which have been unknown to the province.

More problem disease conditions required attention, some of which require special research facilities not available at present. Experimental work though was done on these as far as facilities would permit. One such problem disease has existed in a cattle herd for eight years and has caused a loss of several thousands of dollars to the owner.

Losses have continued to decline from brucellosis, swine erysipelas and avian infectious bronchitis for which there are effective vaccines for preventative measures. In the past ten years the brucellosis control program has meant several millions of dollars to the cattlemen as well as reducing the danger of undulant fever to humans.

The system of obtaining vital statistics from practising veterinarians of livestock and poultry diseases inagurated in 1957 was expanded and improved. The data obtained when co-ordinated with the laboratory and investigational records will be of value in directing Branch efforts to improve preventative measures on the main economic diseases.

The rabies, bovine brucellosis and tuberculosis control programs and inspection at Class D Stockyards (livestock auction markets) progressed favourably. Briefly, there was only one case of rabies, 304,026 calves were vaccinated and 387,412 animals inspected at Class D Stockyards. This is an increase of 16,576 calves vaccinated, and 145,489 animals inspected over the 1957 totals. In terms of comparison the number of inspections at Class D Stockyards is greater than all the cattle in Nova Scotia and New Brunswick combined, or 90% of those in British Columbia.

The Class D Stockyard operators credit a great deal of their increased business to the veterinary inspection provided and the rigid facility and sanitation requirements.

The demands on laboratory services increased again with 14,514 poultry and animal specimens submitted for examination, an increase of 2,192 over 1957. 25,927 cattle and 886 poultry blood tests were also conducted. Cattle blood samples were only tested 10 years ago for brucellosis. Now testing is also done for vibriosis and leptospirosis.- The latter disease has not been diagnosed in Alberta. In 1959 tests will be made too for Q. fever. The work volume was the highest of any Veterinary Laboratory in Canada and has caused a severe strain on personnel and facilities. Future projected trends in lievstock management and populations are expected to further increase the demand on the laboratory and other veterinary services as disease prevention and control is increasingly viewed as an integral part of developing a financially successful enterprise.

During the year Dr. H. C. Carlson transferred to the poultry section at the laboratory as a pathologist. Due to the volume of work it was deemed necessary to have four pathologists to maintain the service at a high standard, two on poultry (Drs. Bigland and Carlson) and two on animals (Drs. Wilton and Vance). Dr. J. P. Best joined the staff as Supervisor of Veterinary Inspection.

Other technical members of the staff were: Mr. J. Bacle (Agr. France) and Mrs. G. Henningsen, B.Sc., who do the routine bacteriology. Dr. K. Maybee assisted part-time in the Micropathology section.

Veterinary Personnel

(a) **Students**

The following is the number of Albertans attending the Ontario Veterinary College as students:

First year	4
Second year	8
Third year	8
Fourth year	7
Fifth year	3
TOTAL	30

The Department pays a $200.00 grant to each on successful completion of a year's study.

During the 1957-58 term, the Alberta students won 6 proficiency prizes and 4 special prizes for academic achievements.

Fifty-seven Albertans have graduated from the Ontario Veterinary College from 1947 to 1958 inclusive, 75% of whom are still in Alberta. Of those in Alberta 77% are in practice. Of the 25% not in Alberta, 3 are taking post-graduate studies, 1 is in Saskatchewan, 3 are in Ontario, 1 is in California, 3 in British Columbia, and 3 have taken promotions with the Federal Health of Animals Division moving to other provinces. Only six have not spent time in Alberta.

(b) Practicing Veterinarians

There were 87 full-time active practitioners assisted by 6 semi-retired. These were in 47 one-man practices, 14 with 2 veterinarians, 3 with 3 veterinarians, and 1 with 7 veterinarians. This is a considerable increase over approximately 20 in practice in 1947. In spite of this increase there are still many openings for practice.

During the year, 16 veterinarians entered practice in Alberta; 3 from Scotland, 3 from United States, 2 from England, 3 from Alberta and one each from Saskatchewan, Ireland, Hungary and Germany.

(c) College

Considerable time was devoted to work of the Committee to determine whether there is a need or not for another veterinary college in Canada based on the potential requirements of Western Canada.

T.B. of Poultry and Hogs

Reports indicate that the educational program of the past several years has resulted in a considerable improvement in keeping poultry and hogs separate, which coupled with better husbandry practices, has helped to reduce the incidence of the disease.

Approximately 1,000 letters were sent out to owners whose hogs showed evidence of tuberculosis.

Rabies

Approximately 50 heads of suspected rabid animals were submitted to the Federal Veterinary Research Laboratory, Lethbridge, for examination. Only one showed evidence of infection, being the only case since May, 1956. The public have not forgotten the disease as evidenced by the alertness to submit heads for examination. Late in December a survey was started in Northern Alberta, through the co-operation of the Forestry Division, Department of Lands and Forests, to determine if rabies was still existent in wildlife. Evidence to date would indicate a negative answer. The Northern fox and rabbit populations were very low, practically eliminating the possibility of an epidemic.

Lectures on rabies were given to the R.C.M.P. personnel being trained for northern duty and to the public health nurses in training at the University of Alberta.

The consensus of opinion is that Alberta rabies control program in 1952-55 produced outstanding results and could be a model for others faced with a similar problem.

T.B. Restricted Areas

The Federal Health of Animals Division again speeded up the T.B. testing program by sending out extra veterinary inspectors from Eastern Canada throughout the year. As many as 8,000 to 11,000 cattle were tested weekly during much of the time. Private practitioners working as part-time employees of the Federal Department of Agriculture have given valuable service in the testing program.

Districts established as T.B. Restricted areas during the year were: Improvement Districts No. 22, 77, 78, 143 and Special Area No. 2 making a total of 62 such areas.

Civil Defence

Considerable time was spent on civil defence to further train the veterinary profession and others to enable protection of the livestock industry and those consuming livestock products in case of nuclear, chemical or biological warfare. The Director lectured at a course for veterinarians from across Canada attending the Canadian Civil Defence College, Arnprior, Ontario.

Permits

Permits were issued under the Livestock Diseases Act for the following:

(a) **Brucellosis**—to 91 veterinarians to use Brucella abortus strain 19 vaccine.

(b) **Poultry Disease vaccines**—to 44 veterinarians, 42 druggists, and 25 hatcherymen to sell such vaccines, the latter to their supply flock owners only.

(c) **Injectable veterinary biologics**—to 90 businesses or individuals to sell, or distribute same which does not include antibiotics, drugs, etc. All must have refrigeration facilities to ensure proper handling. These permits were instituted in 1950 as the result of an amendment to the Alberta Pharmaceutical Association Act.

Addenda

Detailed disease charts and statistics will be printed in an addenda to the Branch report.

BRUCELLOSIS CONTROL

Dr. J. K. Morrow supervised the Brucellosis program and sterility problems during the year.

Alberta's early adoption of a concentrated Brucellosis vaccination program will greatly aid in the objective of eradicating Brucellosis as a major livestock disease. In all provinces and throughout the United States, authorities have imposed stricter regulations with the result that the movement of cattle is governed by Brucellosis health requirements.

The fall of 1958 brought a very advantageous export market for the producer of feeder cattle and breeding stock. The demand was much heavier than in 1957 and placed all cattle at a premium. There was a big demand for heifer calves and older range and purebred females of beef breeds. This province's Brucellosis policies permitted free movement of these animals to destination. As the province raises a large volume of grazing stock which are destined for finishing feedlots, any regulations controlling the marketing of these animals become vital considerations. These regulations, in range cattle of beef breeds over six months, require that the breeding animals be either vaccinated or negative to the Brucellosis test.

Stricter regulations governing the export of dairy breeds came into effect during the year, requiring these animals to come from Brucellosis free herds. However, American authorities sanctioned the entry of range animals of beef breeds vaccinated within the wider vaccination age groups as practiced with Alberta calves. This allowed export of a larger group of vaccinated calves and older animals vaccinated in previous years, which would not require Brucellosis testing up to certain specified age limits.

Within the province itself, the regulations enacted in 1957 governed the vaccination, sale and movement of cattle within the Brucellosis Restricted Areas.

Preparations have been made to have several municipalities in the province come under the Federal Brucellosis Control or Certified Areas programs. These districts are Brucellosis Restricted Areas having carried on complete calfhood vaccination for at least five years. A test program would be carried out under the Federal Health of Animals Division through the testing of all eligible cattle, the branding of positive reacting animals and the payment of compensation for these reactors. Re-tests would be made of infected herds until the disease incidence is reduced to the point where the district may be classified as a Brucellosis Certified Area.

CALFHOOD VACCINATION PROGRAM

Calves now are Brucellosis vaccinated between the ages of four and eleven months, an age grouping particularly desirable to Alberta's vaccination program. Vaccine presently used is the desiccated Strain 19 Brucella abortus vaccine first used in 1957. This product has superior keeping qualities and has a long dating, which assures a constant source of supply.

All vaccinations are recorded by either tattoo markings or an eartag and copies of the certificates kept on file at the laboratory. The records have proven useful on numerous occasions in returning stray animals to owners and settling questions on ownership between neighbours. These eartag files proved invaluable in 1958 in the reproduction of over four thousand duplicate calfhood vaccination certificates. On receipt of an eartag number, a search of the files revealed the necessary details and showed the eligibility of the animal for export with or without the necessity of a Brucellosis test. Should the animal be eligible for export as a vaccinate, duplicate certificates were forwarded to the veterinarian in the field as the required certification. A lot of credit is due the office staff for the commendable manner in which these many checks on the certificate files were completed.

During the year 304,026 calves were vaccinated with Brucella abortus vaccine bringing the total number of calves vaccinated since the program was initiated in 1945 to 1,675,565.

BRUCELLOSIS RESTRICTED AREAS

Brucellosis Restricted Areas were first established in the province in 1950. These areas operated under a plan of complete vaccination of all heifer calves, the testing of cattle for auction sales and the branding of Brucellosis infected animals.

All of these areas were municipalities or counties and the administration of Brucellosis policies supervised by the Agricultural Service Boards. Cattle owners within special areas and improvement districts had indicated that they were anxious to take advantage of these Brucellosis policies. Through an agreement with the Department of Municipal Affairs, it was arranged that in such areas operating without an Agricultural Service Board, the Brucellosis Restricted Areas could be administered by a special committee. Legislation was enacted permitting the establishment of a Brucellosis Committee to function as administrating bodies. This new policy will permit the incorporation of a large portion of the province under the Brucellosis Area program and canvassing is proceeding in several districts.

Financial assistance to allay the costs of vaccination and administration in Brucellosis Restricted Areas was increased last year through the Department of Agriculture Grant. Fifty cents for each calf vaccinated and twenty-five cents for each animal tested is allotted for these services in each area. Forty cents of the vaccination grant is paid to the veterinarian who administers the vaccine and he reduces the costs to the livestock owner by this amount. There is accelerated interest in many districts for their establishment as areas so that the benefits of this grant may be realized.

Five additions to the Brucellosis Restricted Areas were made during 1958 bringing the total to 39. These were the Municipal District of Wheatland No. 40, the Municipal District of Lethbridge No. 25, Improvement District No. 138, Improvement District No. 139 and Improvement District No. 109.

DIAGNOSTIC SERVICES

The detection of Brucellosis infection is made in the laboratory by a highly accurate serological test on blood samples forwarded to the laboratory by veterinarians. These tests are made to confirm suspicion of the presence of Brucellosis in a herd; to assure purchasers that animals are free of the disease and that milk from these animals is safe to drink. Brucella germs localize in the udder and may cause Undulant Fever, an insiduous, debilitating disease in man.

In addition to Brucellosis detection, the same blood samples may be used to complete laboratory tests for leptospirosis and vibriosis. These are two other infectious diseases which may cause breeding diseases in cattle.

The following table show the results of the Brucellosis agglutionation tests by the animal disease section of the laboratory. The Dominion blood tests were up a hundred and twenty-five per cent from last year due to the requirements for purebred sales and the heavy movement of export cattle.

BLOOD TESTS FOR BRUCELLOSIS (BANG'S DISEASE) 1958

	Provincial Blood Tests	Percentage	Dominion Blood Tests	Percentage	Total Number of Blood Tests	Percentage
Number Positive	1,003	5.6%	104	1.5%	1,107	4.5%
Number Suspect	750	3.3%	305	4.5%	1,055	4.1%
Number Negative	17,520	90.9%	6,127	93.6%	23,647	91.3%
Number Broken or Hemolyzed, etc.	118	.2%	4	.4%	122	.1%
	19,391	100 %	6,540	100 %	25,931	100 %

6,010 Brucellosis tests were conducted on cattle sold at the auction market sales and showed an incidence of 2.5 per cent reacting animals. In compiling these records, it was noted that the degree of infection was much lower in districts which had been established early as Brucellosis Restricted Areas.

STERILITY

During the year individual and herd breeding problems are referred to the laboratory for investigation. Reproductive organs are examined for neoplasms, malformations and bacteriological study for the cause of breeding difficulties.

Faulty nutrition has been found to be the factor in a great many cases. Mineral deficiency with a lack of certain vital trace elements in diets has been found to be the fault in many instances. This has been found to be the cause in certain specific areas and residents in these districts can be advised of the necessary corrective measures.

Vitamin deficiencies, particularly the lack of Vitamin A, suspected on examination of the live animals may be confirmed in the laboratory by histological examination. Because of the increasing frequency with which this is noted, considerable publicity has been given to the necessity of this vitamin in reproduction. The quantity of the vitamin stored in the body may be so depleted during the late periods of pregnancy as to seriously effect the growth and development of the offspring. Supplement feeding, in many cases, utilizing the vitamin in pure state has corrected the condition. Many livestock owners have adapted the addition of vitamin supplement to the feed as a routine procedure regardless of how good the feed available may seem. A number of owners report excellent breeding records and are particularly pleased with the vigour shown in the new-born calves.

Microscopic examination of semen for the evaluation of breeding soundness in bulls has been simplified by the use of electrical apparatus. Semen specimens are checked for the presence and undesirable malformations of sperm as well as the degree of motility and vigour. Several purebred breeders are having bulls examined by veterinarians before offering them for sale. More complete semen examination can be made in the laboratory than with the facilities available in the field.

There were no confirmed reports of trichomoniasis or leptospirosis infection during the year. These are two infectious breeding diseases in cattle causing problems in other areas.

VIBRIOSIS

On infectious venereal disease in cattle that has received intensified investigation during the past year. First diagnosed in Alberta in 1954, it is characterized by early abortions and the history of repeat breedings.

Special laboratory facilities have been made available for concentrated study and details of these are shown under the report of the bacteriological section. Investigations have shown how the disease may be handled in infected herds through management and treatment.

Because of the lack of any visible symptoms of the disease, livestock owners have been asked to pay more attention to the sources of herd replacements. Publicity has been given the nature of the disease through bulletin, press and radio releases.

VETERINARY INSPECTION SERVICE

This service is charged with the responsibility of supervising the veterinary inspection of Class "C" Stockyards (Buying Stations), and Class "D" Stockyards (Auction Markets) of the province. The inspection of these premises is directed toward the prevention of the spread of livestock diseases though these establishments. Dr. H. C. Carlson supervised this service until October 1st, when he was succeeded by Dr. J. P. Best.

Class "C" Stockyards

The purpose of the regulations governing the operation of Class "C" Stockyards is twofold; (1) to enforce a high standard of sanitation in the operation of the premises and (2) to reduce the spread of animal diseases by preventing uninspected livestock being shipped to feeding lots and farms.

During 1958 thirteen stockyards were able to quality for Class "C" licenses, and operated under the regulations.

Periodic inspections were made and when conditions contrary to the regulations were observed, they were brought to the operator's attention and recommendations made for their correction.

Class "D" Stockyards

Since veterinary inspection of livestock auction markets was first provided in 1956, this method of marketing livestock has grown in popularity until it is now one of the major means the Alberta farmer has of converting his livestock to cash.

As the number of animals passing through these centres has increased, the importance of, and the need for, veterinary inspection has become more apparent.

The inspection service provided is essentially a practice of preventative medicine, and as the benefits of preventative medicine are amplified with the passing of time, it is impossible to estimate the monetary value of this service to the farmers of Alberta, or the amount of needless pain and suffering of animals that has been avoided.

The practising veterinarians of the province provide the inspection staff, being appointed inspectors under the Livestock Diseases Act and paid by the Department. The animals are inspected as soon as they are unloaded from the contributor's truck. If any evidence of contagious or infectious disease is observed, or if these conditions are suspected, the contributor is given the choice of returning his stock to his own farm or having it marked "For Slaughter Only", and sold on that basis.

This system of inspection has the added value of bringing the farmer and the veterinarian together so that the farmer receives the benefit of the veterinarian's advice, and his recommendations of the best way to handle the disease problems uncovered during the inspection.

The reports from the inspecting veterinarians serve as a valuable guide to the incidence of disease in the province. Each month about 18 diseases of cattle and 10 of hogs are commonly reported; these reports reveal that mastitis is the most frequent cause of rejection in cattle, and that rhinitis takes first place as the reason for hogs being rejected.

It is interesting to note the increasing frequency with which Glasser's Disease in hogs was reported during the year.

Although the number of markets under inspection dropped from 24 to 21 during the year, the total number of animals inspected during 1959 was 387,412, an increase of 145,489, or 60.1% over 1957.

Animals rejected totalled 8,746 or 2.26% of animals inspected, compared to 1.9% in 1957.

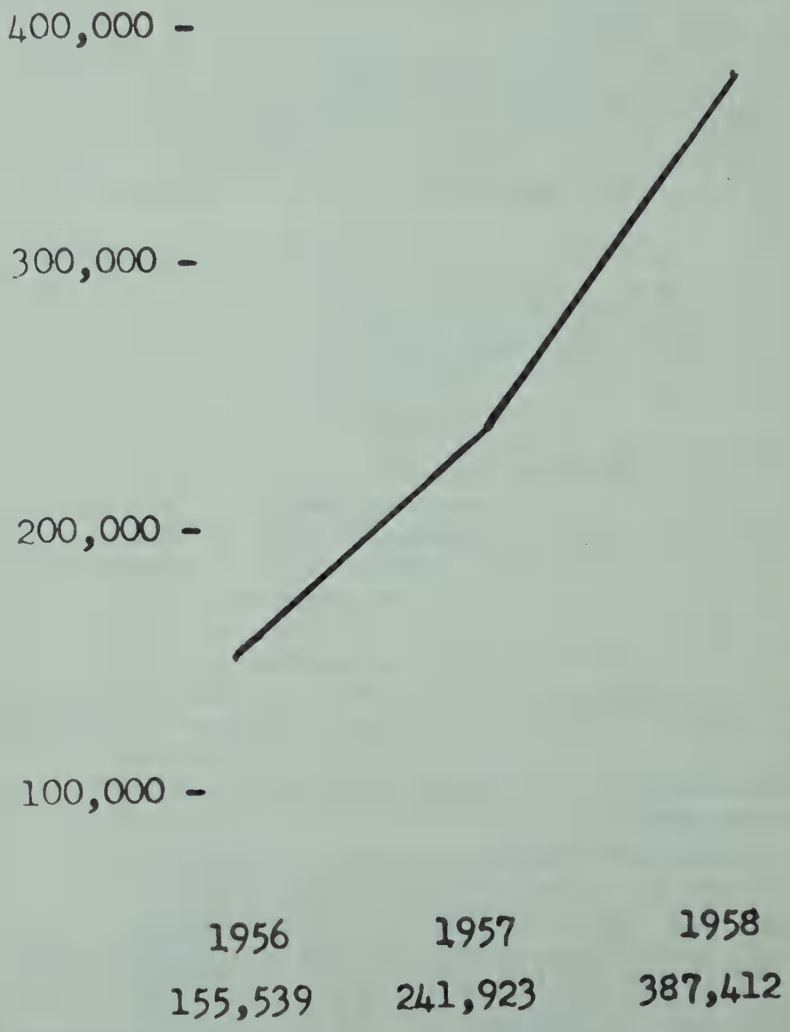
A meeting of all the veterinarians engaged in inspection was held in January. Many of the problems that had arisen during

1957 were resolved, and means of arriving at uniform methods of inspection and reporting were discussed.

During the year a commendable spirit of co-operation between the operators of the stockyards and the inspection staff has made the enforcing of the regulations possible with the minimum of friction.

The following charts show the increase in the total of animals inspected, the individual market activities and the causes of rejections throughout the province.

ANIMALS INSPECTED AT CLASS "D" STOCKYARDS



CLASS "D" STOCKYARDS LIVESTOCK INSPECTED—1958

	Passed	Rejected	Inspected
Market "A"	8,952	200	9,152
Market "B"	3,450	298	3,748
Market "C"	33,758	225	33,983
Market "D"	19,730	1,294	21,024
Market "E"	5,029	165	5,194
Market "F"	4,915	136	5,051
Market "G"	15,696	1,122	16,818
Market "H"	16,405	413	16,818
Market "I"	20,328	401	20,729
Market "J"	10,147	244	10,391
Market "K"	14,734	109	14,843
Market "L"	36,128	568	36,696
Market "M"	79,343	995	80,338
Market "N"	38,671	527	39,198
Market "O"	9,488	60	9,548
Market "P"	12,628	764	13,392
Market "Q"	1,386	25	1,411
Market "R"	1,811	55	1,866
Market "S"	19,415	404	19,819
Market "T"	21,444	462	21,906
Market "U"	5,208	279	5,487
	378,666	8,746	387,412

REJECTION CAUSES AT CLASS "D" STOCKYARDS

CATTLE—TOTAL	1,043
Mastitis	23.49%
Enteritis	16.49%
Lump-jaw	15.05%
Cancer-eye	10.16%
Pneumonia	10.07%
Ringworm	5.66%
Shipping fever	3.55%
Warts	2.68%
Foot-rot	.96%
Lice	.96%
Other Causes	6.53%

SWINE—TOTAL	7,671
Rhinitis	58.69%
Mange	20.74%
Pneumonia	7.47%
Erysipelas	4,69%
Enteritis	4.16%
Dermatitis	1.73%
Glasser's Disease	.95%
Septicaemia	.57%
Lice	.27%
Other Causes	.73%

SHEEP—TOTAL	12
Mastitis	5
Pneumonia	3
Lump-jaw	1
Metritis	1
Sinusitis	1
Abscess	1

HORSES—TOTAL	20
Strangles	11
Distemper	3
Cancer-eye	2
Carcinoma	2
Pneumonia	2

EXTENSION

The extension activities under the direction of Dr. J. G. O'Donoghue include lectures at the University of Alberta and Schools of Agriculture, investigational and service trips and participation in the supervision of disease control programs. All members of the veterinary staff have been called upon for field investigations.

Investigational and Service Calls.

Cattle	55
Swine	64
Sheep	12
Horses	1
Fur Animals	16
Wild Life (caribou, etc.)	11
	159
Meetings	78
Lectures	119

Vital Statistic Reporting

While laboratory submissions and personal contact with practising veterinarians and livestock producers provides for a reasonable assessment of current disease it does not always reflect the true significance of an individual disease or the total disease loss. In April 1957, a system of vital statistic reporting supplying morbidity and mortality figures for disease conditions in Alberta livestock was instituted. The methods employed while successful in part have not proven completely successful. In 1958 changes were made which it is hoped will provide a record of every disease diagnosis made by practicing veterinarians. Early in 1958, 18 practices will be reporting. It will be three years before statistical coverage is complete.

General

There were several problems encountered in the year which caused considerable loss and for which it was impossible to provide immediately effective treatment or control recommendations. This was either the result of a disease, the knowledge of which is incomplete, (Vomiting and Wasting disease of pigs) or a disease which showed a somewhat different syndrome than that described for it in other geographic locations (enterotoxemia of calves). It must be emphasized that were it not for veterinary practitioners and the present diagnostic facilities these conditions would not be recognized and could continue to result in serious loss.

It was necessary to place affected premises under observation and to apply treatment and control measures on a trial and error basis. There were also a number of animals purchased for experimental purposes to aid in the study of current problems.

Suspected Poisonings

A number of cases of reported poisoning from oil field activities and industrial hazards were investigated. Toxicity trials of 24D, 245T, a further extension to work done in 1950 was completed. These herbicides are not a hazard to livestock in the concentrations at which they are applied to vegetation.

1. Cattle

(a) Vitamin A Deficiency

The losses from this deficiency have been reduced by educational efforts. Cases were investigated during the year in which factors other than uncomplicated dietary deficiences were involved.

(b) Respiratory Disease

In terms of total economic loss, pneumonia, shipping fever, and respiratory infections are the most important infectious conditions of cattle. In beef breeds the exact etiology of some of these conditions remains obscure and effective treatment regimes are unknown. An extensive study of one such disease was commenced by the Laboratory staff in November 1958.

(c) Pulmonary Emphysema

An acute condition, appearing suddenly in beef cattle in late summer following a change from regular pasture to stubble or cover crop. It is characterized by laboured breathing and sudden death. It has occurred sporadically in Alberta, but in 1958 there was a marked increase. Questionnaires were circulated to determine the incidence and the conditions under which losses occurred. It was confirmed on 46 premises but the total number of premises would be greater. Prompt recognition and treatment will lessen the losses.

(d) Enterotoxemia in Calves

This is a Clostridium perfringens intoxication of calves from birth to four months of age. It has been recognized in the U.S.A.

and is now being reported in Alberta. Laboratory confirmation of the condition is difficult. An outbreak in one herd was investigated in detail. The use of Clostridium perfringens type C antitoxin and toxoid gave apparent results.

(e) **Lungworms**

This parasite have been a continuing problem on a few individual premises. A new drug, cyancethydrazide was used on one such premise with excellent results.

(f) **Others**

Mastitis, Clostridium infections, sterility, acute indigestion and bloat are major problems.

2. **Swine**

(a) **Inspections**

As required by the regulations governing the Advanced Registry Assistance Bonus 32 purebred swine premises were inspected. No application was rejected because of infectious disease or unsatisfactory sanitary conditions, but provisional approval only was granted in two instances.

The premises of origin of swine nominated for the Royal Winter Fair was inspected for atrophic rhinitis.

(b) **Erysipelas**

Every swine producer is faced with the probable occurrence of this disease on his premises. Bacterins have been improved and routine inoculation, particularly from April to October is recommended. With the publicity that has been given to this problem through the year that it has been increasing in incidence there is no need for heavy losses to occur.

(c) **Rhinitis**

This is of low incidence in purebred herds. The difficulties of accurate diagnosis and the fact that other benign infections may produce symptoms similar to it has presented problems in herd health inspections.

(d) **Glassers Disease**

A disease of young swine, characterized by unthriftiness, deaths, enlarged points and coughing with symptoms appearing at approximately three weeks of age. The investigation of infected premises was a major project. Not only was a large herd placed under supervision for treatment and control trials but pregnant sows were purchased and farrowed in isolation at the laboratory to determine the possibility of carrier animals. The knowledge gained has been the basis for control recommendation that should be successful.

(e) **Vomiting and Wasting Disease of Little Pigs**

This condition was encountered in field investigation in December. Laboratory records show a sudden extensive prevelance of the condition, first recognized in Ontario a year ago. Losses will be great.

3. Sheep

(a) Clostridium Infection in New Born Lambs

Characterized by diarrohea and heavy losses in new born lambs. It has not been prevalent, the condition being first studied in Alberta several years ago. An outbreak on one premises was investigated and controlled with Clostridium perfringens type D, antitoxin. It would recur if preventative measures were not instituted.

(b) Lungworms

Cyancethydrazide was administered to an effected flock in a trial similar to that in cattle with equally gratifying results.

4. Horses

(a) Equine Encephalomyelitis

No cases were reported in 1958.

5. Fur Animals

(a) Distemper

Five ranches were guarantined for distemper during the year.

(b) Virus Enteritis

This disease is now present in British Columbia. Alberta remains free and every precaution is being taken to maintain this state.

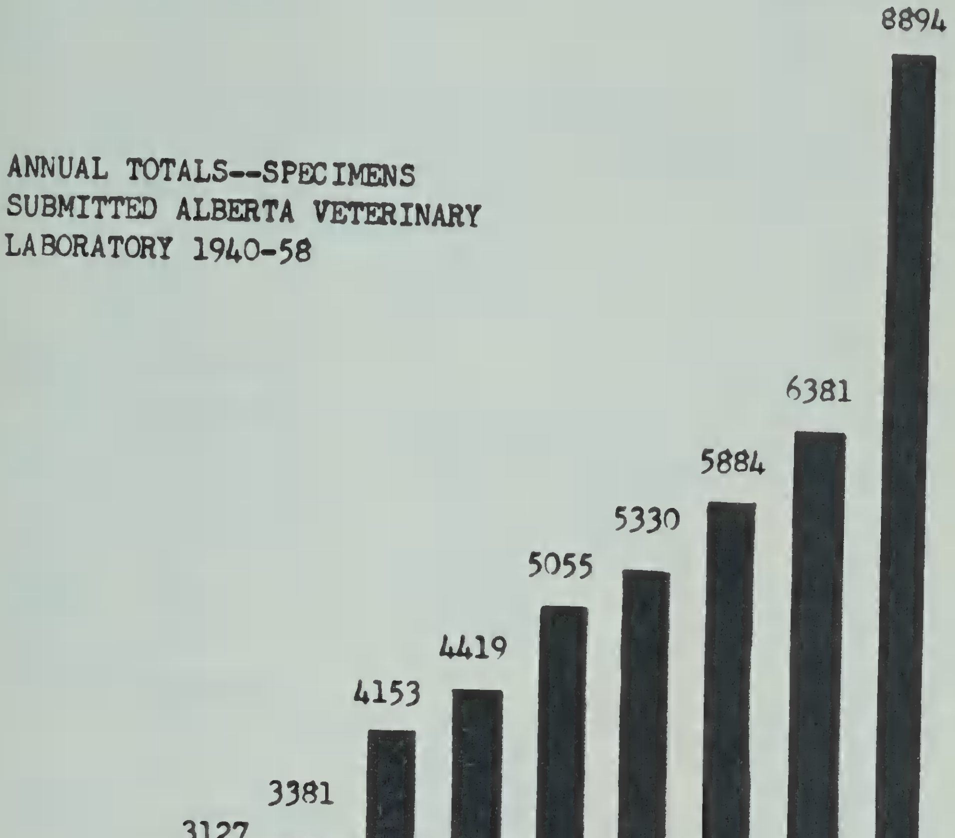
Swine Film

The photography for an educational films on swine disease was completed in the year. This film should be finished in 1959.

ANIMAL DISEASES SECTION

This section, under the direction of Dr. G. S. Wilton, assisted by Dr. H. N. Vance, is responsible mainly for an accurate diagnosis of animal diseases. It is important that the work be completed as rapidly as possible, yet retain the accuracy essential to disease control. The laboratory performs many tests not possible in the field and a diagnosis often prevents considerable losses on individual farms and at other times in the whole community.

There were 8,894 specimens examined in 1958 compared to 6,381 in 1957, showing a marked increase of 39%. The number of consignments or farms serviced increased from 2,620 to 3,600. The following chart shows the steady annual increase in specimens submitted from 1940 to 1958.



ANNUAL TOTALS--SPECIMENS SUBMITTED ALBERTA VETERINARY LABORATORY 1940-58

There were 2,361 cattle specimens (including the milk samples) and 4,849 swine specimens examined in a total of 8,894. This does not include the large number of bovine bloods handled which would increase the cattle percentage considerably. However it does reveal that over 75% of the submissions were from cattle and swine. 33 species of animals were examined as listed in the specimen table below.

Species	Live	Dead	Portions	TOTALS
Beaver	....	3	1	4
Buffalo	....	....	5	5
Caribou	....	2	2	4
Cat	2	25	27	54
Cattle	16	198	1,714	1,928
Chinchilla	3	74	4	81
Coyote	....	3	11	14
Deer	2	3	13	18
Dog	....	73	328	401
Elk	....	....	1	1
Fish	....	6	....	6
Fisher	....	....	1	1
Goat	....	3	6	9
Gopher	....	1	....	1
Guinea Pig	....	10	....	10
Hampster	....	4	....	4
Horse	....	3	58	61
Kangaroo	....	....	3	3
Lynx	....	2	....	2
Marten	....	1	....	1
Mink	21	137	....	158
Monkey	....	2	14	16
Moose	....	1	23	24
Mouse	....	3	....	3
Muskrat	....	16	6	22
Nutria	....	5	4	9
Otter	....	2	4	6
Rabbit	....	7	4	11
Raccoon	1	....	....	1
Rat	6	1	....	7
Sheep	4	40	81	125
Swine	229	829	3,791	4,849
Wolves	....	8	....	8
Blood Samples	....	....	....	132
Fecal Samples	....	....	....	40
Feed Samples	....	....	....	79
Milk Samples	....	....	....	433
Semen Samples	....	....	....	14
Urine Samples	....	....	....	39
Water Samples	....	....	....	139
Tampons	....	....	....	69
Miscellaneous	....	....	....	102
TOTALS	....	....	....	8,894

Blood Testing

There were 25,927 bovine bloods tested for brucellosis and 696 serum samples were forwarded to the Ontario Veterinary College to be tested for vibriosis. There were 212 bovine serum samples prepared and forwarded to Dr. R. D. Stuart of the Provincial Public Health Laboratory where they were tested serologically for leptospirosis. The brucellosis testing results appear under the report of Brucellosis control.

Milk Samples

433 milk samples were examined. Many of these were submitted by veterinarians from acute cases of mastitis. Sensitivity tests were frequently made on the causative organism to determine the most effective treatment. The organisms isolated from infected quarters as listed below.

Organism Isolated	Number
Staphylococcus sp.	156
Streptococcus sp.	50
Corynebacterium sp.	4
Escherichia coli (hemolytic)	7
Mixed Cultures	55
Total	272

Meat Samples

The lack of abattoir inspections and/or veterinary services in many parts of Alberta results in a number of meat samples being submitted to the laboratory to determine their fitness for human consumption. The dairy branch submitted many of these samples.

There were 45 samples examined and 19 were found unfit for human consumption.

Poisons

The Provincial Analyst and his associate examined 760 specimens for this section in 523 submissions. The number of specimens included 139 water analysis. The water was found unsatisfactory in 49 samples (35%) due to excessive nitrates, glauber salts etc. The poisons detected were.

Arsenic	37
Strychnine	16
Nitrate	4
Lead	1
Plant Poisoning	16

Biological Products

Autogenous bacterins and vaccines (listed below) were prepared at various times at the request of veterinarians to use on disease conditions which failed to respond to previous treatment.

Product	Amount	Species	Disease
Autogenous bacterin	2,850 cc's	Bovine	Mastitis
Autogenous bacterin	2,000 cc's	Bovine	Pasteurellosis
Autogenous bacterin	3,800 cc's	Porcine	Pasteurellosis
Autogenous bacterin	1,000 cc's	Chinchilla	Listeriosis
Autogenous vaccine	813 cc's	Bovine	Papillomatosis
Autogenous vaccine	76 cc's	Canine	Papillomatosis
Autogenous vaccine	3,760 cc's	Mink	Distemper

Laboratory Animals

Experimental animals are used in diagnosing blackleg and allied diseases, brucellosis, etc., and in the isolation of certain bacteria, pathogenicity determinations and for many other conditions. In this regard a large colony of experimental animals was maintained. 424 guinea pigs, 128 mice, 22 rabbits, 26 mink, 3 calves, 10 swine, 44 chickens and 12 ducks were used for disease transmission trails or feeding trials. Careful examination of these animals along with the necessary culturing and blood examinations is an essential part of the processing of many submissions.

Wildlife Specimens

The disease table reveals that there were 88 wildlife submissions examined from 20 species of animals. The big game specimens were submitted mainly by hunters seeking advice on the suitability of the meat for human consumption. The remaining specimens were submitted by veterinarians, zoologists, Federal and Provincial officials interested in determining the cause of the conditions to prevent further losses if possible.

Other Activities

Although field investigations have been very limited, due to the volume of work, the two veterinary pathologists made 14 trips covering swine, cattle, horses, mink and chinchilla. In addition 5 swine field days and 7 mink meetings were addressed. A chinchilla show and a milk field day were attended. Two radio interviews were made and 4 extension releases prepared. A paper was published in the Canadian Journal of Comparative Medicine entitled "Steatitis on Mink Farms in Alberta".

Disease Conditions

Specimens were received from most areas of the province and a study of this report gives a general picture of the disease problems. The more common conditions diagnosed in the specimens received are briefly mentioned in the following discussion.

Cattle

Over 75 disease conditions were found in the cattle specimens submitted. Blackleg, malignant oedema and allied Clostridia were responsible for the majority of the losses in young cattle. Failure to vaccinate or improper vaccination was responsible for most of the casualties. Mastitis was a big problem in dairy herds and was found in 67 submissions. 52 cases of pneumonia were diagnosed. Pulmonary emphysema became a problem in the fall and although many cases were reported verbally by the practitioner we examined tissues from 14 cases. Mucosal disease was diagnosed in 5 specimens. 7 submissions were diagnosed as Johne's disease.

Vitamin A deficiency was found in 16 specimens. Goitre in young calves was more prevalent than usual.

Swine

Swine erysipelas is prevalent throughout the province and has caused heavy losses for a number of years. The causative organism of this disease was isolated from 352 specimens from 100 premises. Gut oedema was diagnosed on 119 farms and in addition hemolytic E. coli septicaemias were found on 63 premises. Some of these cases could have been gut oedema. Glasser's disease is still on the increase and was found on 116 premises. Pneumonia was diagnosed on 183 farms in addition to the 152 premises found affected with shipping fever. Infectious atrophic rhinitis was diagnosed on 26 farms. The causative organism of salmonellosis was recovered from 6 submissions.

Gastroenteritis in pigs continued to be a big problem mainly due to faulty feeding and management. Nutritional diseases such as vitamin A deficiency was diagnosed on 85 farms and anemia on 61.

During November and December the laboratory was faced with a new disease problem in swine when baby pigs from a number of farms were submitted to the laboratory for examination with symptoms of vomiting and wasting. The disease seemed to strike the litter anytine between three days and three weeks of age but older pigs sometimes were affected. The losses were heavy with the owners losing several litters in a short period of time. Treatment with various preparations did not appear to be of any benefit. Further investigations into this condition are being undertaken.

Sheep

The laboratory examined 124 sheep specimens during the year. The conditions most frequently seen were enterotoxemia, pneumonia, stomach worms and tapeworms. A few of the other conditions found were lungworms, pregnancy disease, vitamin A deficiency and listerellosis.

Mink

There was a total of 157 mink specimens examined. Distemper, which has caused heavy losses in the mink industry in past years, was only diagnosed by the laboratory on 5 farms. Fortunately no virus enteritis has occurred in Alberta to date. Necrophorous infection caused considerable concern on a number of farms while urinary calculi was a problem on others.

Pasteurella multocida infections proved a problem in kits on one farm this spring and the organism was isolated from an animal casualty from the same premises of few months later.

A few of the other conditions encountered were aleutian disease, Chastek paralysis, nursing sickness, nutritional anemia and pneumonia. Avian T.B. was found on two farms where the disease was diagnosed a few years previously.

Chinchilla

Listeria monocytogenes infection was diagnosed in 9 cases. One rancher lost 29 out of 48 chinchillas over night with carbon-monoxide poisoning.

Dogs

There was a total of 393 dog specimens submitted but many of these were tissues forwarded by veterinarians for the micropathology section. A total of 70 dogs for complete examination along with 323 portions were received. Many specimens were submitted for toxicology examination. It is interesting to note that 30 submissions were diagnosed as cancer or malignant tumors, and 15 as benign tumors. There were 15 cases of strychnine poisoning and 12 cases of arsenic poisoning. Distemper, infectious canine hepatitis and pneumonia were other conditions noted.

MICROPATHOLOGY SECTION

The primay purpose of this section, under the direction of Dr. F. E. Grasser, is to intepret and assess, by means of microscopic examination, the importance of pathological changes which may be present in tissues submitted for that purpose. In order to achieve this ,all tissues received from the animal and poultry disease departments of the laboratory, as well as those sent in by practising veterinarians are processed, sectioned and mounted on glass slides to be stained and prepared for histopathological examination. The findings are recorded, and a written report returned to the appropriate source.

Many of the known disease conditions produce characteristic changes in certain of the organs or tissues which can be detected only by microscopic examination. In most cases ,their recognition may be regarded as an important diagnostic aid . In some instances, the changes are specific and a positive diagnosis is arrived at on this basis alone. This latter category includes such virus diseases as distemper of mink and canines, infectious canine hepatitis, virus enteritis of mink, virus pneumonia of swine, etc. Histopathological examination also is indicated when malignancy is suspected in the numerous neoplastic growths that are encountered. Only by this means can they be accurately identified and classified.

Other activities carried on by this section include a restricted photographic service, and the preparation and maintainance of gross specimen mounts for display and educational purposes. The ordering of all laboratory supplies and equipment, as well as the preparation of the annual inventory, also are the responsibility of this section.

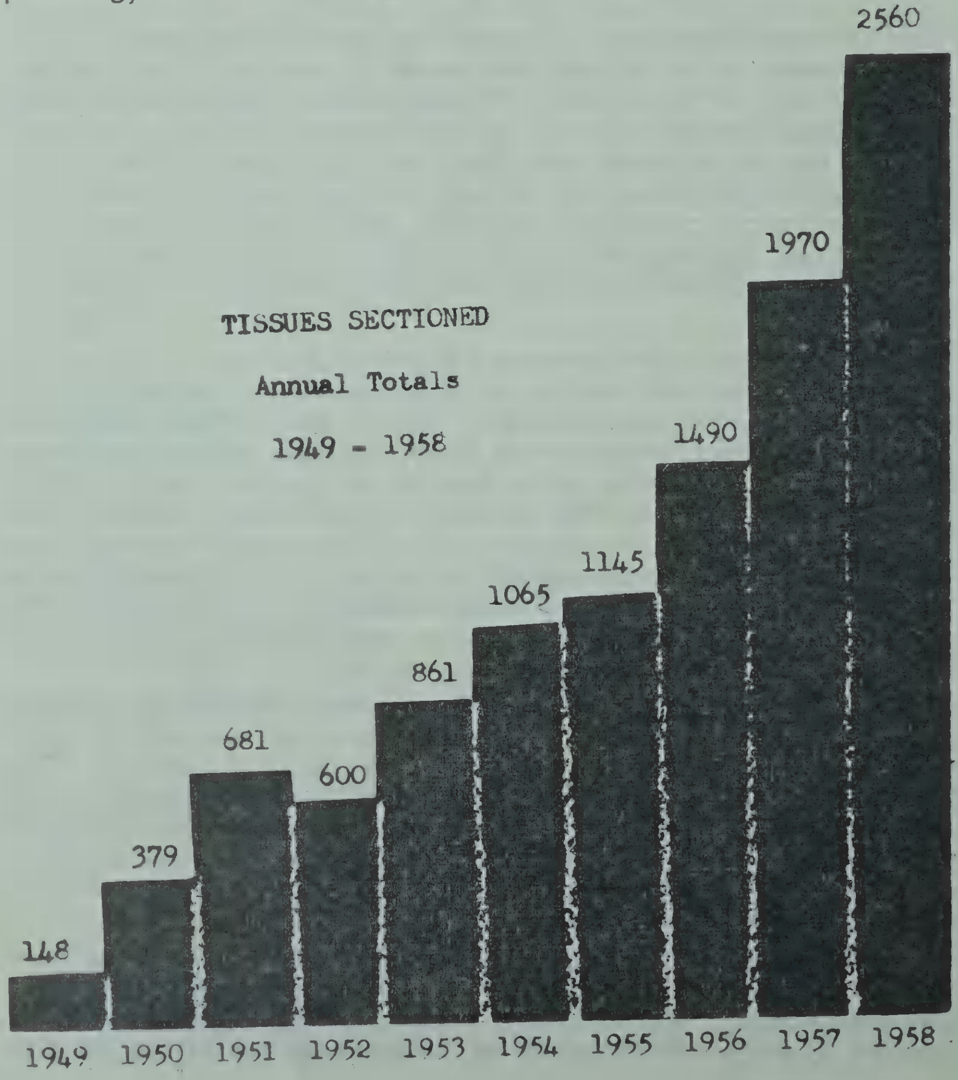
1. Histopathological Sectioning

A total of 2,560 tissues were received during the year from which approximately 2,735 sections were prepared and examined microscopically. The following table provides a breakdown, by species, of the work accomplished. Additional tables are presented to show the nature of the tissues and associated conditions which were encountered.

TABLE I

DOMESTIC ANIMALS	
Bovine	245
Canine	287
Equine	20
Feline	37
Porcine	772
Ovine	65
Miscellaneous	31
TOTAL	1,457
POULTRY	
Chicken	709
Turkey	129
Miscellaneous	82
TOTAL	920
FUR-BEARING ANIMALS	
Mink	160
Miscellaneous	23
TOTAL	183
GRAND TOTAL	2,560

An increase of 30% in the volume of work is apparent over that of the previous year. The accompanying chart depicts diagrammatically the rate of increase since 1949, when the micropathology section was established.



The acquisition of a part-time laboratory assistant in September has done much to alleviate the pressure occasioned by the increased volume. Should this rate of increase continue, it is anticipated that the services of an assistant who can devote full time to the routine processing of tissues will be necessary.

Fewer submissions of fur-bearing animal specimens were received than in previous years. This may be attributed to a decrease in the incidence of disease, together with the fact that the present trend is to larger and better managed ranches. A total of 99 mink bladders were examined, of which 18 showed virus inclusion bodies indicating the presence of distemper. This disease was encountered on 5 different ranches.

The number of neoplastic conditions, or tumours ,examined (excluding the leukosis complex in poultry) amounted to 146. Of these, 87 (approx. 60%) proved to be malignant. A table classifying all the tumours examined follows:

TABLE II

CLASSIFICATION OF TUMOURS

Species	Benign Connective Tissue	Benign Epithelial	Benign Misc.	Malignant Connective Tissue	Malignant Epithelial	Malignant Misc.	Totals
Domestic Animals	14	13	4	20	21	24	96
Poultry	9	5	11	9	5	5	44
Fur-Bearing Animals	......	3	......	......	3	......	6
TOTALS	23	21	15	29	29	29	146

2. Preparation of Material for Extension Purposes

Photographic work, entailing the taking of pictures, both in colour and black and white, together with the production of photographic prints, has been the responsibility of this section for a number of years. As the result of heavy demands on time occasioned by the increase in histopathological work, activities along this line have had to be curtailed to some extent.

Approximately 80 colour transparencies were added to the series of slides on animal and poultry diseases, while 110 photographic prints were produced for reference purposes and illustrations for scientific papers. These were prepared at the request of members of the professional staff of the laboratory.

Repairs to containers and replacement of preservative fluid in 10 display specimens also were effected.

BACTERIOLOGICAL SECTION

A bacteriology section was established at the laboratory beginning January 1, 1958 under Dr. G. R. Whenham. This section was given the responsibility of bacteriology of reproductive disease and special bacteriology of a project nature as it became necessary.

During the year a total of 175 feti were examined in an effort to determine the cause of abortion. The accompanying chart No. 1 illustrates the species examined and the findings.

CHART No. 1—Fetus Examinations

Species	Number Examined	Brucella	Vibrio	Coryne	Fungus	Others
Bovine	158	18	10	6	3	1 Streptococcus 1 E. rhusiopathiae
Ovine	6	......	2	......	......	......
Porcine	9	......	......	......	......	......
Equine	2	......	......	......	......	......

In addition to feti examinations over 100 other specimens, many of them associated with reproductive disturbances were examined in this section. These included urine samples, semen samples, milk samples, swabs of reproductive organs and Brucella abortus Strain 19 vaccine. The vaccine samples were checked for potency and viability.

To facilitate the diagnosis of Vibriosis in Alberta cattle herds and so hasten treatment and control, steps were taken to begin the mucus agglutination test using cervico-vaginal mucus. Antigen was grown and prepared using two strains of Vibrio fetus obtained from British Columbia and one isolated from an Alberta cattle herd. With the cooperation of Dr. Morrow a simplified method of obtaining mucus samples was devised and toward the end of the year a start was made on testing mucus samples submitted by veterinarians. The tests performed to date are illustrated in Chart No. 2. It is expected that by circularizing the veterinarians this year a considerable increase in mucus agglutination testing will occur and this test should take a significant place in the control of Vibriosis.

CHART No. 2—Mucus Agglutination Tests

SAMPLES	47
No. Positive	14
No. Suspicious	4
No. Negative	29

The role of P.P.L.O.'s in disease processes remains somewhat obscure, and in an effort to improve diagnostic services, efforts were made to adopt suitable media and methods for their isolation and possible identification. At this date P.P.L.O's have been isolated from animal specimens for the first time at this laboratory.

Some work has been done with the spore forming anerobes and during the year more than 100 cultures were examined using the sugar inoculation technique described by Reed and Orr. This project is aimed at devising suitable methods for the identification of the Clostridia which play such an important part in the cattle disease picture in Alberta.

Approximately 100 routine staphlycocci isolations have been examined for antibiotic sensitivity during the year. It is hoped that as time goes on this project will facilitate studies on the role of staphlycocci of animal origin in human illness.

Toward the end of the year preparations were made to do some work on viruses and the diagnosis of virus diseases. To date this has consisted largely of study of technical methods and procedures involved in egg inoculation and the practice of some of these procedures. Steps have been taken to obtain additional equipment to advance this work.

During the year 12 field investigational trips were taken by Dr. Whenham and one scientific paper was published in collaboration with Dr. H. N. Vance.

POULTRY DISEASE SECTION

The poultry disease section is under the direction of Dr. C. H. Bigland, assisted by Dr. H. N. Vance for five months in the spring rush. Dr. G. R. Whenham also assisted in PPLO-HI and turkey pullorum testing together with virological work. In November, Dr. H. C. Carlson transferred to this Section as full-time Veterinary Pathologist from the position of Supervisor of Veterinary Inspection Service. Primarily this Section is responsible for the accurate diagnosis of poultry diseases. Specimens of diagnosis are received from all points in Alberta submitted by Veterinarians, farmers, hatcherymen, feed manufacturers and others connected with the poultry industry.

Disease is recognized as one of the greatest threats to successful poultry production. The monetary loss through poultry disease in Alberta is great and has been known to be many thousands of dollars even on one individual farm. The control and prevention of disease is especially important to the expanding chicken and turkey broiler industry, and to farms where the size of turkey or chicken flocks is increasing. Accurate diagnosis and speedy dissemination of this information is essential to such control. Disease prevention is of the umost importance and this is stressed by the personnel in all letters, telegrams, bulletins, personal contacts and meetings.

The accompanying graph illustrates the increasing volume of work handled by the Poultry Disease Section over the past ten years. The increase or decrease for 1958 over 1957 figures include the following:

No. of blood samples	886	(42% increase)
No. of letters sent	6,870	(34% increase)
No. of telegrams sent	486	(4% decrease)
*No. of specimens or portions examined	5,620	(5% decrease)
No. of persons submitting specimens	2,273	(3% decrease)

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*See Specimen Table.

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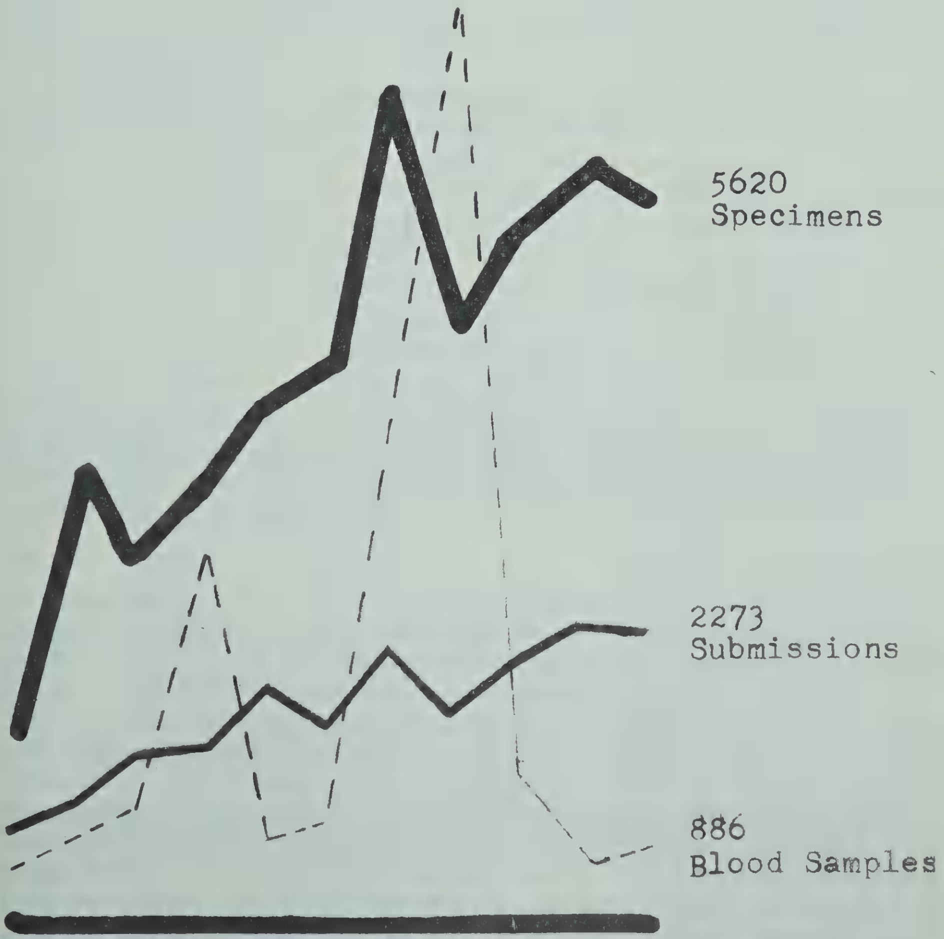

POULTRY—1948-1958

SPECIMEN TABLE

Species	Live	Dead	Portion	TOTAL
Chickens	1,105	1,857	119	3,071
Turkeys	522	1,561	34	2,117
Budgerigar	8	13		21
Canary	1	7		8
Cockatiel		1		1
Ducks	8	30	5	43
Ducklings		12		12
Falcon, Prairie		1		1
Falcon, Peregrine	1		1	2
Goose	2	7	3	12
Grouse, Blue		2		2
Grouse, Franklin			1	1
Grouse, Ruffed		1		1
Gulls, Sea		4		4
Heron, Blue	1			1
Lapland Longspur		1		1
Magpie		76		76
Martin, Purple		1		1
Mynah Bird		1		1
Owl, Great Horned	1	1		2
Ostrich			1	1
Partridge, Chukkar		3		3
Peacock		1		1
Pea Fowl	1	1		2
Parrot			1	1
Pheasant	4	33	2	39
Pigeon	6	3	1	10
Robin	2	2		4
Whistling Swan	1	2		3
Sparrow		1		1
Mexican Turkeys	2			2
Warbler, Tennessee	1			1
Feed			62	62
Water			51	51
Eggs			37	37
Miscellaneous			14	14
TOTALS	1,666	3,621	332	5,620
BLOOD SERUM				886
GRAND TOTAL				6,506

Approximately 200 primary disease conditions were encountered in the specimens examined. In order to ensure the accuracy of the final diagnosis ,each specimen was subjected to one or a combination of the following studies or examinations:

- ante-mortem
- post-mortem
- bacteriological
- serological
- virological
- hematological
- microscopic
- micropathological
- parasitological
- fungus
- chemical

When such studies are completed, the results are compiled in a final diagnosis. Once the diagnosis is established, the information is speedily given to the veterinarian, the owner or his agent together with recommendations for treatment, control or prevention.

Poultry Disease Picture

Alberta poultry were again spared from any one widespread or epidemic disease condition in 1958. With the exception of a predicted increase in respiratory infections in baby chicks, this, considering the large number of specimens received from many farms in the province, indicates an increasing awareness of the benefits of rapid and accurate diagnosis by poultrymen. With the increase in size of flocks representing large monetary investments, this trend assists in quickly controlling disease resulting in a greater gain per unit. Since many large flocks are also financed by feed manufacturers and others, the financier tends to insist on and assist in prompt attention to disease and correct diagnosis. Disease control in large flocks is important because if a condition becomes established, the losses can be correspondingly large.

As in past years many poultry losses appear to be due directly or indirectly to faulty feeding, management and sanitation. The majority of such losses occurred in the small "farm flocks" as larger poultry operators pay more attention to these factors.

Detailed statistics on disease conditions will be included in the separate report of the Veterinary Services Branch. However, the following conditions were considered worthy of special attention:

Newcastle Disease

One case of Newcastle Disease was suspected but not confirmed in chickens from a flock in southern Alberta. No epizootic of Newcastle Disease has occurred in Alberta since 1954, even though very little vaccination against this condition has been followed during the past few years. This tends to leave an almost fully susceptible poultry population.

Infectious Bronchitis

This condition has been one in which we have had difficulty in confirming our suspicions. Such confirmation should include virus isolation or neutralization testing. This could not be done at this laboratory due to lack of virological facilities. However, Dr. Whenham has begun work along this line which will prove of value when expanded.

Infectious Bronchitis was diagnosed in 5 adult laying flocks. The outbreaks resulting in a rapid spreading respiratory infection, cessation of egg production and lowered production upon recovery six to eight weeks later.

An unidentified respiratory infection occurred in 76 flocks of baby chicks which was thought to be wholly or partly due to Infectious Bronchitis.

A survey of approved flocks in Alberta by the Poultry Branch indicated that approximately 63% of hatching egg flocks and approximately 73% of the Broiler Supply Flocks had been vaccinated for Infectious Bronchitis. This is compared with 55% for 1957.

Figures on the importation of vaccine into Alberta indicate that 662,750 doses of Infectious Bronchitis vaccine, 127,500 doses of Newcastle vaccine, and 5,400 doses of combined vaccine were distributed in the province in 1958. This compares with 401,250 doses of Infectious Bronchitis vaccine, 270,100 doses of Newcastle Disease vaccine and 178,000 doses of combined vaccine in 1957. A large portion of this vaccine was used in broiler flocks.

Chronic Respiratory Disease

The diagnosis of Chronic Respiratory Disease (CRD) is based on positive PPLO culture, PPLO haemagglutination-inhibition blood testing and a typical clinical picture. 163 cases of CRD were diagnosed in 1958 from 73 farms, which is approximately the same as in 1957. Aside from blood samples submitted for PPLO testing, 764 blood samples from routine cases suspected of being CRD were examined. Of these, 481 were positive, 245 negative and 38 suspicious. PPLO cultural examination was also attempted on 194 suspected cases, 108 of these were positive, 83 were negative and 2 suspicious. Of suspected cases submitted to both the PPLO cultural examination and HI test, 86 were positive to both cultural and HI, while 49 were negative to both culture and HI—making a total of 135 tested. On May 1st a few rapid plate test from Connecticut was received for checking. Of 258 blood samples submitted to this test, 144 were positive, 99 negative and 15 suspicious.

Avian Tuberculosis

Good poultry management and sanitation can bring Avian tuberculosis under control. However, in Alberta it is still costing Alberta poultrymen, hog raisers and the consuming public many thousands of dollars annually. Avian tuberculosis was diagnosed in 147 birds from 117 farms in 1958, compared to 167 birds from 113 farms in 1957. Three of the 1958 isolations were made from pheasants.

Carbon Monoxide Poisoning

Aside from Leukosis, poisoning with carbon monoxide resulted in the loss of more baby chicks and poults than any other specific disease condition. The majority of such losses could be eliminated by the venting of all brooder stoves, attention to brooding equipment and adequate ventilation. 118 cases were diagnosed in 1958, compared to 155 cases in 1957.

Paratyphoid

Paratyphoid infections are still a constant problem with 96 cases involving 457 birds, compared with 442 specimens from 112 farms in 1957. These include 4 isolations from budgerigar, a duck, a goose and a pheasant.

As these organisms are transmissible to humans and because future control measures may hinge on the types encountered, each isolation was submitted to the Alberta Public Health Laboratories for typing.

The following table gives the types isolated from poultry in 1958.

SALMONELLA PARATYPHOID ISOLATIONS 1958

S. heidelberg	57
S. typhimurium	19
S. thompson	13
S. newington	3
S. kentuky	3
S. montevideo	3
S. anatum	3
S. minneapolis	1
S. newport	1
Not typed	12
TOTAL	115

PULLORUM

An increase in the number of Salmonella pullorum isolations were found in 1958. This organism was isolated from 299 chickens, chicks and poults and eggs from 93 premises in 1958, compared with 117 specimens from 59 premises in 1957. A number of isolations were made from adult birds submitted for pullorum examination, following positive blood tests in the field.

Thirty-eight chick flocks were affected with pullorum in 1958 compared with 9 chick flocks in 1957. Thirty-one poult flocks were affected in 1958, compared with 19 in 1957. Infection in the majority of the poults was traced back by the alertness of the Poultry Branch to eggs from one producer who was shipping hatching eggs to three separate hatcheries. Further spread of the infection was stopped by the destruction of all eggs from this producer that had been set in the three hatchries. A check of birds on this producers flock revealed reaction to the pullorum whole blood and tube tests. A group of 20 one month old poults reacting to the whole blood test were brought to this Laboratory and have been tested approximately every two weeks until after they were in production. They were then sacrificed and thoroughly cultured. Salmonella pullorum was isolated from two birds. The results of five separate pullorum tests conducted at two week intervals indicated a loss of reaction after six weeks and only sporadic reactions when the birds came into production.

The pullorum testing program carried out by the Provincial Poultry Branch is highly instrumental in the general control of pullorum disease in Alberta.

In order to check on prevailing strains of S. pullorum so that testing antigens can be standarized, all such isolations were submitted to the Ontario Agricultural College for typing. The following table lists the typing of S. pullorum isolated in Alberta since 1950.

	1950	1951	1952	1953	1954	1955	1956	1957	1958
Standard	22	34	70	58	86	34	65	46	61
Variant	2	5	39	21	48	10	28	8	10
Intermediate	9	7	11	30	9	31	0	1	7
Not Typed	0	0	0	0	0	10	4	3	8
TOTALS	33	46	120	109	143	85	97	58	86

Non-Pullorum Reactor Suspects

Post-mortem, bacteriological and serological examinations were made on 95 birds submitted by the Poultry Branch. These were showing questionable reaction to the whole blood test for pullorum. S. pullorum was isolated from 28 birds or approximately 30% of the birds submitted. This number accounts for a large portion of the adult pullorum isolations indicated above.

Fowl Typhoid

This condition was diagnosed in chickens and turkeys from 17 farms in 1958, compared with 19 farms in 1957. The majority of Fowl typhoid isolations were made from birds originating in the "Fowl typhoid endemic" area east of Edmonton, centering around Two Hills, Vegreville and Andrew.

Examination of Birds Under Test

To correctly evaluate tests conducted on birds in the Random Sample Test and at the University of Alberta; the cause of all mortality was determined. To assist in these programs 264 birds were examined from the two Random Sample Tests conducted by the Provincial Poultry Branch. 218 of these were from the first Random Sample Test and 46 from the second Random Sample Test. A detailed table of diagnoses by pen numbers for the first Alberta Random Sample Test will be given in the Report of the Veterinary Services Branch. From the University of Alberta 143 specimens were examined, including 84 chickens, 6 pheasant, 4 turkey, 39 chicken blood and 10 turkey blood specimens.

Newer Disease Conditions

Avian encephalomyelitis—was diagnosed in 14 cases in 1958, compared with 11 cases in 1957. Most of the cases occurred in broiler chicks.

Dissecting aneurysm—was seen in one flock of young turkeys in 1958, compared with 3 flocks in 1957. The condition causes sudden deaths by internal hemorrhage in turkeys. The cause is as yet unknown.

Round Heart Disease— a heart degeneration of chickens was diagnosed in 21 cases in 1958, compared with 14 cases in 1957.

Infectious Hepatitis—a liver condition in chickens was diagnosed in one flock in 1958, compared with 4 flocks in 1957.

Capillariasis—a condition caused by a microscopic thread-like worm invading the wall of the intestine, was found in 3 chicken flocks as the primary cause of death or emaciation.

Extension

The annual Hatcherymen Short Course sponsored by the Veterinary Services and Poultry Branches was addressed. Talks on poultry diseases were given to three producer groups and three field investigations were undertaken. The annual lecture and demonstration to the Poultry Inspector Short Course was given. The Veterinary Mid-Winter Conference in Red Deer and the annual meeting of the Alberta Veterinary Medical Association in Banff were attended. Several meetings of the Western Canadian Veterinary Study Committee and associated Questionnaire Committee were attended. Four lectures to the St. John's Ambulance Cadets were given. Talks on veterinary medicine were given to the Cosmopolitan Club in Edmonton and the Chamber of Commerce, Calgary. Dr. Carlson attended a Poultry Pathologist Conference in Bear Mountain, New York, U.S.A.

Scientific Presentations

One paper entitled "Arizona Paracolon Isolations in Poultry in Alberta" was published in the Canadian Journal of Comparative Medicine. Five papers on poultry diseases were presented at the annual Poultry Pathologist Conference in Ottawa. Scientific papers were presented at the Veterinarian' Conference, Pullman, Washington, the Canadian Veterinary Medical Association Convention in Winnipeg and the Saskatchewan Veterinary Medical Association Convention in Saskatoon.

Experimental

A group of chickens injected with various strains of Salmonella pullorum were given the drug furazolidone (NF-180) in the feed. They were then blood tested at frequent intervals during the three month duration of the test. At the end of this time all were killed and the internal organs thoroughly cultured. This test indicated that the drugs interfered only slightly with the isolation of the organism when localized in the productive tract and that it did not interfere with positive birds reacting to the pullorum test.

Report of the Schools of Agriculture and Home Economics

J. E. HAWKER, Superintendent

J. E. Birdsall, Principal, Olds School
N. N. Bentley, Principal, Vermilion School
P. Jamieson, Principal, Fairview School

For the 1957-58 term, graduation exercises were held at each of the three Schools on April 9th. On this date Diplomas of Graduation were presented as follows:

	Olds	Vermilion	Fairview	Total
Diplomas in Home Economics	9	12	14	35
Diplomas in Agriculture	54	30	18	102
	63	42	32	137

The total of 137 graduates is 41 below that of the total number graduating the previous year.

The special arrangement between the Department of Agriculture and the School Divisions at Vermilion and Fairview continued to operate during the fall of 1957 and the spring of 1958. The plan terminated at the Vermilion School on June 30th, 1958, with shop and home economic accommodation built by the Vermilion School Division becoming available in the fall of 1958. Temporarily, the plan terminated on the same date in Fairview following the loss by fire of the school shops on March 7th, 1958, and the closing of the Fairview School.

A Continuation Of The Table Showing Numbers Of Junior High School Students Receiving Instruction In High School Options At Schools of Agriculture

	Vermilion Students		Fairview Students		
Period	Shop	Home Ec.	Shop	Home Ec.	Total
Previous Attendance	1,074	1,122	431	461	3,088
†Spring, 1957	130	121	87	94	432
*Fall, 1957	155	93	54	45	347
‡Winter, 1957	39	17			56
Spring, 1958	105	70	51	41	267
	1,503	1,423	623	641	4,190

Note: *Fall Term—6 weeks
†Spring Term—10 weeks
‡Winter Term—24 weeks

The annual combined staff conference was held at the Olds School October 16th and 17th, 1958. Excellent papers were presented by staff members on "Preparing a Lesson", "The Place and Function of Extra-Curricular Activities—Staff Responsibility", and the Superintendent outlined possible future programs for Schools of Agriculture. Each presentation was followed by considerable discussion.

There were eight staff changes in 1958. With two exceptions, replacements were required for staff who accepted other responsibilities and is about normal change for three schools.

Board of Agricultural Education

The annual meeting of the Board was held in Edmonton, April 18th, 1958. On instructions from the Chairman, the Secretary had supplied statements of student per capita costs for Alberta Schools of Agriculture as well as for similar schools in Canada and the United States. The Chairman stated that, following release of these statements, he had received no inquiries for more detailed information.

Effective methods of advertising the work of the Schools were discussed. It was noted that substantial response had been obtained through greater use of radio at Vermilion and Fairview and a five minute television release by the Department of Economic Affairs made at the Olds School. Complete, current information on the Schools has been supplied in card form to all extension workers by the Superintendent's office.

Long term plans for construction and/or reconstruction at the Schools were discussed. A new dairy barn was authorized for the Olds School, construction to be undertaken during 1958. With the suspension of classes at Fairview for the 1958-59 term due to the loss of the shop buildings at that school on March 7, 1958, the Chairman stated that transportation assistance for students from the Peace River area, wishing to attend the Vermilion School, would be reinstated.

It was recommended by the Board that:

(a) The Second Year and Two-in-One Courses in Home Economics at all Schools be reinstated effective October, 1958.

(b) The Superintendent and the Principals submit detailed proposals for specialized courses in agriculture and home economics.

(c) A Liaison Sub-Committee be appointed by the Minister to review matters pertaining to agricultural education at all levels. The committee would include representation from the Faculty of Agriculture and the School of Home Economics, University of Alberta, the Department of Education, and the Department of Agriculture.

(d) If possible, arrangements be made to offer some academic courses for home economic students at School of Agriculture effective October, 1958.

The 1958-59 Term

The turning point in the trend toward lower enrollment for schools offering vocational agricultural courses seems to have been reached last year. For the first time since the 1955-56 term, accommodation for agricultural students is filled at both Olds and Vermilion. In spite of the fact that 36* students from the Peace River area enrolled at the Vermilion School, enrollment at Vermilion is up by 32% over last year after this group of 36 has been subtracted. Olds enrollment has increased 36% over last year.

With the suspension of the Second Year and Two-in-One Course in Home Economics in 1956, enrollment of girls dropped 50% and remained at this point for the past two terms. The impact of reinstating these courses in the fall of 1958 will not be fully felt before the fall of 1959.

Enrollment figures at the opening of the term on October 28th, 1958 were as follows:

	Olds	Vermilion	Fairview	Total
Agriculture:				
First Year	56	55 (13)*	Not Operating	111
Second Year	24	40 (19)*		64
Two-in-One	39	21 (3)*		60
Home Economics:				
First Year	7	11		18
Second Year	0	3 (1)*		3
Two-in One	10	6		16
	136	136		272

Maintenance and Construction

At Fairview, the boiler-room which was heavily damaged by fire on March 7th, 1958, has been completely rebuilt. Summer short courses and conferences were held during the summer in spite of complete loss of the gymnasium and shops. The school buildings will be kept heated during the winter and a skeleton staff maintained to prevent damage to the buildings and contents.

Major maintenance items at the Olds School included converting one classroom in the dormitory building into offices to centralize administration; completion of boiler room stack and replacement of main water lines, and erection of an entrance and storage area servicing the kitchen and gymnasium. Construction included completion of one residence, erection of a steel storage unit for maintenance supplies and excavation in preparation for the building of a new dairy barn.

At the Vermilion School major maintenance included further interior renovation to the mechanics classroom and the refitting of student rooms. No major construction was undertaken. Normal maintenance of roadways, sidewalks, and buildings was carried out at all three schools.

Summer Program

As previously reported, there is an increasing demand for the use of school facilities at all schools by a wide variety of organizations. Recently it has been impossible to accede to all of these requests due to conflict with prior commitments. Every effort is made to meet the wishes of all bona fide applications. It is estimated that during 1958 and apart from regular student courses, five thousand people visited the Olds School, four thousand were visitors at the Vermilion School and between two and three thousand were guests at the Fairview School.

The regular summer program at all schools included a Farm Women's Week and a total of four one week courses from members of 4-H Clubs. In addition, some of the other groups accommodated included 4-H Club Leaders' Conferences, Alberta Women's Institute Girls' Club Conference, 4-H Elimination Competitions, Boys' and Girls' Farm Fair Camp, Alumni Reunions, Church Young Peoples' Conferences, Short Course for small Business Operators, C.G.I.T. Conferences, Agricultural Society Meetings, Evening Class in Farm Management for local farm people, a School of Agriculture Staff Conference and Teachers' Conventions.

Appreciation

As in the past, very liberal support for the work of the Schools continues to be provided by a large number of commercial companies, organizations of various kinds and by individuals. Much of this support is in the form of scholarships, bursaries and prizes. The Department wishes to express sincere appreciation for this very welcome support.

Officials of the University of Alberta and from the Federal Government have been generous in lending their aid in the work of the Schools. Their co-operation is gratefully acknowledged.

The active program of an Alumni group at each School is appreciated. Following the loss by fire of the gymnasium at Fairview, gymnasium facilities in the town were most generously offered by the Fairview School Board. Their timely co-operation is thankfully acknowledged.

Throughout the year the complete co-oerpation of the Principal and staff at each School has been most gratifying.

OLDS SCHOOL OF AGRICULTURE AND HOME ECONOMICS

During 1958 the school progressed in many ways. Enrollment showed a marked increase from the spring to the fall term in both agriculture and home economics, the teaching staff situation showed signs of greater stability, greater use than normal was made of school facilities when the regular course was not in session, an expanded program of maintenance was carried out, the program of new construction was continued and farm production was at a very high level.

Little Royal and Achievement Day

The annual Little Royal and Achievement Day was held on April 2nd. A preview of the dress review held on the previous evening was attended by three hundred local people and agriculture students. Displays gave a good coverage of courses and the dress review was staged before a capacity crowd. Mr. J. L. Kerns, District Agricultural at Ponoka and a member of the graduating class of 1928, judged the Little Royal which was attended by about five hundred people.

Graduation

At the Closing Exercises held on April 9th, 1958, Dr. C. F. Bentley, Associate Dean, Faculty of Agriculture, delivered the address to the graduating class. John Graham of Vulcan, a second year agriculture student, was class valedictorian. A Surplus Wheat Board University Scholarship was awarded to Stanley Collier of Penhold. Prizes for proficiency in various fields were awarded to the graduating students.

Diplomas of Graduation were awarded as follows:

	Agriculture	Home Economics	Total
Two Year Course	26	......	26
Two-in-One Course	28	....	28
Special Course	......	9	9
	54	9	63

Special Lectures During Regular Course

Three specialists gave courses of several days duration in January and February. Mr. D. Harrington, Extension Irrigationist, lectured to second year and two-in-one agriculture students on "Irrigation"; Mr. J. Edmunds, Apiary Supervisor, gave a series of lectures on "Beekeeping" to first year and two-in-one agriculture students, and Dr. J. G. O'Donoghue, of the Veterinary Services Branch, dealt with "Veterinary Medicine".

Special speakers who visited the school to give one lecture each included Dr. C. F. Bentley, Associate Dean, Faculty of Agriculture, University of Alberta; F. H. Newcombe, Director, Extension Service; Mr. J. G. Stothart, Superintendent, Experimental Station, Lacombe; a lady representative of the National Employment Service, Red Deer; Inspector Walls, Highway Safety Branch, Department of Highways; Mr. W. H. T. Mead, Livestock Commissioner, and Mr. Ray Dixon, Supervisor, Dairy Herd Improvement.

During the fall term, Stewart Van Pettem, 1958 Nuffield Scholar, gave an illustrated talk on his six month visit to Britain. He graduated from the school in 1936.

Special Activities

Immediately after the regular course ended in April a two day 4-H Leaders' Conference was held with an attendance of fifty-seven. This was followed by a meeting of the Alberta Horticultural Association with about thirty people present. During the latter part of April a ten day school for owner-operators of small businesses was put on by the Western Business Research Institute and the Alberta Associated Chambers of Commerce and Agriculture with about thirty taking the course.

During May and June several 4-H, W.I. and F.U.A. functions were held at the school with a total attendance of approximately four hundred.

Summer activities commenced on July 7th with the Alberta Women's Institute Girls' Club Conference. This was followed by Farm Women's Week, two 4-H Club weeks, 4-H Elimination Competitions, the Alumni Reunion and a Lutheran Young Peoples' Conference. Total attendance at these functions was approximately one thousand.

Activities during October included an award night for local 4-H Clubs, a work-shop for Sunday School teachers from Central United Church in Calgary, a C.G.I.T. Conference, a C.G.I.T. Leaders Conference, a 4-H Leaders' Conference, and Agricultural Society banquet and a Schools of Agriculture and Home Economics staff conference. Total attendance was approximately six hundred.

During November and December weekly farm management classes for local farm people were held each Friday afternoon under the direction of the District Agriculturist and the District Home Economist.

During the year the number of people who came to the school in organized groups was approximately five thousand. Besides this, many individuals and small groups dropped in for information or to renew acquaintances.

Summer Activities of Staff

A number of staff members leave the school to do other work during the summer. Those remaining at the school throughout the summer of 1958 were J. E. Birdsall, Principal, G. B. Harrison, Maintenance Supervisor, and S. B. Wilton, Farm Manager. The position of horticulturist was filled when W. Baranyk was transferred from the Vermilion School of Agriculture on June 1st. He was granted leave of absence for university courses during July and early August and for the month of October. His predecessor, Mr. Don Robertson, returned to full time farming.

The Dietitian, Mrs. Hodgson, was on leave of absence during May and June and again in September; Mrs. Charles, School Nurse and Dean of Women was on leave of absence for the entire summer; Miss Wigmore, Food Instructress, resigned to return to Eastern Canada and was replaced by Miss Kathleen Carney who spent the summer with the Extension Service. Mrs. Stiles, English Instructress, resigned to accept a position with the Red Deer School Division and was replaced on October 1st by R. P. Warrington; Miss Daley, Clothing Instructress, worked with the Extension Service until June when she was granted leave of absence for a trip to Europe. Mr. Sandeman, Science Instructor, resigned to enroll at the Ontario Veterinary College and was replaced by J. P. Tait who transferred from the Fairview School of Agriculture and who spent the summer on apiary inspection work; Mr. W. D. Ratcliff, Instructor in Poultry and Dairying returned to his farm in April and will rejoin the staff in January, 1959.

The Field Husbandry Instructor, Mr. H. W. Sutherland was Assistant District Agriculturist at Olds and Red Deer for the summer; the Dean of Men, Mr. E. E. Rogers, spent the summer on inventory work and assisting with 4-H programs; Mr. C. Kirk, Agricultural Engineer, spent the summer on extension work and Mr. H. Armstrong, Metals Instructor, did field work with the Field Crops Branch.

Grounds and Plots

The grounds were maintained in good condition and a number of improvements were made.

The plot area produced a good supply of vegetables for the dormitory, seed grain for the farm and foundation stock creeping red fescue. Part of the potato production was transferred to rented land in a sandy area in the Red Lodge district north-west of Olds. A higher quality crop was produced than is possible on the heavier soil at the school. Test plots of cereal and forage crops and a cultural experiment was carried out in co-operation with the Lacombe Experimental Station. A hail test was conducted in co-operation with the University of Alberta for the Alberta Hail Insurance Board. The testing of apple seedlings for the Experimental Station at Morden was continued.

Maintenance Program

An extensive program of maintenance was carried out including redecoration of classrooms, shops, dormitory rooms and offices. Other major projects included changing one classroom to offices which made it possible to centralize administration in the dormitory building; completion of the stack on the boiler-room; completion of replacement of the main water lines; complete remodelling of the farm buildings shop and classroom; erection of an entrance and storage area serving the kitchen and gymnasium and an extensive program of repairing and repainting windows and trim on the exterior of buildings.

Public Works Construction

One residence started in 1957 was completed. Materials for a steel storage building for maintenance supplies were supplied by the Department of Public Works and the building was erected by the school maintenance crew. Excavation was carried out in preparation for the erection of a new dairy barn and livestock classroom; gravel fill was put in and materials ordered. Erection was expected to commence early in January. Materials were on hand for the erection of a new sheep barn.

The Farm

Very dry spring weather hampered early cultural control of weeds. However, ample rainfall was received starting on June 27th resulting in excellent yields of grain. Early cuttings of hay were very light but yields benefiting from late June rains gave good yields of forage.

Some exceptional yields were obtained. A one-half acre plot of Garry oats yielded 55 bus. while a 30-acre field of Husky barley yielded approximately 75 bus. per acre.

The following acreages were harvested:

	Acres	Yield
Grain:		
Wheat	30	1,800 bus.
Oats	90	5,400 bus.
Barley	70	4,500 bus.
Forage:		
Hay	150	150 tons
Silage (oats)	40	300 tons

Ample supplies of grain, forage, and bedding were harvested to meet the needs of the livestock.

The dairy herd again had a successful year with the average herd production at approximately 14,000 lbs. One two-year old heifer produced 16,997 lbs. of milk; 43,000 pounds of milk were supplied to the dormitory and 8,500 pounds of cream sold to the Creamery.

Fourteen Shorthorn calves were born with one lost during the summer. All offspring are being dehorned at birth and all males are castrated. Performance testing on the calves is continuing, both as an aid in selection of replacements and as a student exercise. The use of the calves for Little Royal exhibits interferes to some extent with this.

Average results to date show the following:

	Birth Wt.	Weaning Wt.*	Average Daily Gain
8 females	63.0 lbs.	363.5 lbs.	1.67 lbs.
6 males	69.4 lbs.	417.8 lbs.	1.94 lbs.

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*Weaning weight adjusted to 180 days but no adjustment for age of dam or sex of calf.

Some of the poorer Holstein heifers have been bred to the Shorthorn bull and the cross-breds will be compared to the Shorthorns in performance.

The appearance of ruptured and ridgling pigs made it necessary to replace the breeding herd of swine. Ten gilts were purchased from the Vermilion School of Agriculture where good results in advanced registry have been obtained.

Twenty Suffolk ewes obtained from the Vermilion School of Agriculture late in 1957 had a one hundred and thirty-five percent lamb crop with no losses. Five ewe lambs which were not bred at Vermilion were bred to a Cheviot ram to provide cross bred lambs for classroom use. A similar program was followed for 1959 lambing. Half of the ewes were bred to a Suffolk ram and the other half to a Columbia ram. Records of rates of gain and wool clip will be kept on these lambs.

Machinery purchases during 1958 included a heavy duty cultivator, oscillating harrows, and transit feed mixer.

The 1958 Fall Term

Registration by classes was as follows:

	First Year	Second Year	Two-in-One	Total
Agriculture	56	24	39	119
Home Economics	7	0	10	17
	63	24	49	136

During the fall term one boy and one girl withdrew and at the end of the year there was some doubt that one girl, who was injured at the end of November, would return.

The term was satisfactory in every respect. The teaching staff performed capably, discipline problems were at a very minimum, students work was satisfactory to good and in spite of a low enrollment of girls a good program of extra-curricular activities was carried out.

Instructional and Administrative Staff for the Fall Term

J. E. Birdsall, M.Sc.—Principal, Farm Management
Mrs. Frances Hodgson, B.A.—Dietitian
Mrs. V. Meakings Charles, R.N.—Dean of Women, School Nurse, Home Nursing
E. E. Rogers—Dean of Men, Recreation
S. B. Wilton, B.Sc.—Livestock, Farm Manager
G. B. Harrison, B.Sc.—Farm Buildings, Maintenance Supervisor
Miss Gwen Daley, B.Ed.—Clothing, Handicrafts, Interior Decoration
Miss Kathleen Carney, B.H.Ec.—Foods, Home Management, Laundering
W. C. Kirk, B.Sc.—Farm Machinery, Farm Motors
A. F. Peltzer—Assistant Mechanic's Instructor
H. W. Sutherland, B.Sc.—Field Husbandry, Farm Management Laboratory
H. J. Armstrong—Metals
W. Baranyk, B.Sc.—Horticulture, Botany, Community Organization
R. P. Warrington, F.R.G.S.—English, Economics and Cooperation
J. P. Tait, B.Sc.—Science, Entomology and Beekeeping
J. I. D. Mathieson—Commercial subjects
G. A. Ogston—Farm Foreman
D. G. Robb—Accountant
Miss Y. Dodd—Secretary
Mrs. H. W. Sutherland—Stenographer
Mrs. B. Brown—Librarian

VERMILION SCHOOL OF AGRICULTURE AND HOME ECONOMICS

The 1957-58 Term

The Calendar Year 1958 witnessed a very marked change in the enrollment picture at the Vermilion School of Agriculture and Home Economics. The 1957-58 term, which concluded on April 9th, showed the lowest enrollment since World War II. The 1958-59 term, which began on October 28th, show a marked upward trend with an increase of some 32%. In addition to this increase from the Vermilion School area there were 36 students from the Peace River area making an 89% difference in enrollment. The girls' classes continue to show a low enrollment with twenty girls registered in the fall of 1958, compared to fourteen one year ago. Only one of these girls is from the Peace River area.

Visitors and Special Speakers

Visitors to the School, many of whom addressed the students during the term included: Dr. J. G. O'Donoghue, Extension Veterinarian, Edmonton; Miss E. Craig, District Home Economist, Wainwright; Miss D. Shantz, District Home Economist, Wainwright; Mr. S. C. Heckbert, Vermilion; Mr. D. H. McCallum, Dairy Commissioner, Edmonton; Dr. C. F. Bentley, Associate Dean of Agriculture, University of Alberta; Mr. M. Simonson, Vermilion; Mr. A. J. Charnetski, Livestock Supervisor, Edmonton; Mr. W. H. T. Mead, Livestock Commissioner, Edmonton; Mr. S. S. Graham, Assistant Director Extension Service, Edmonton; Mr. C. A. Cheshire, Extension Engineer, Edmonton. In addition, many representatives of commercial and farm organizations were School visitors.

Special Events in the 1957-58 Term

In addition to the regular programme of extra-curricula activities organized under the Students' Council the following events are noteworthy:

January 12th—V.S.A. Alumni Executive Meeting
January 15th—4-H Leaders' Conference
January 29th—Celebrity Concert
March 1st—Fourth Annual Parents' Weekend
March 7th—Alumni Re-Union
March 15th—North-Eastern Alberta High School Basketball Tournament
March 29th—Fourth Annual Colour Night
April 2nd—"Little Royal" and Achievement Day
April 9th—Graduation Exercises

As in previous years the Parents' Weekend, Alumni Re-Union, "Little Royal" and Graduation Day continued to attract many visitors to the School. The support of parents and the general public contributes a great deal to the success of these events.

Mr. V. T. Janssen, Assistant Supervisor of 4-H Clubs was guest judge at the "Little Royal".

Graduation

At the Closing Exercises held on April 9th, Mr. S. C. Heckbert, a former member of the staff at V.S.A., gave the Convocation Address. Mr. J. E. Hawker, Superintendent of Schools of Agriculture, represented the Department of Agriculture and assisted in the ceremonies.

Diplomas of Graduation were awarded as follows:

	Agriculture	Home Economics
Two Year Course	15	..
"Two-in-One" Course	15	12
	30	12

Winners of Scholarships for distinction in various fields at the Vermilion School of Agriculture and Home Economics were:

Vermilion Board of Trade—Jack Burlet, Barrhead
Winnipeg Grain Exchange—Orest Stelmach, Andrew
Line Elevators Farm Service—Orest Stelmach, Andrew
Imperial Oil Company—Walter Huber, Calmar
Alberta Turkey Breeders' Association—Arnold Malone, Rosalind
Craig Brothers—Orest Stelmach, Andrew

Special Activities

Following the closing of the regular courses in April four instructors and four classrooms were employed by the Vermilion School Division for instruction in Shop Work and Home Economics. This arrangement was discontinued at the end of June as the Vermilion School Division has built its own facilities.

Other special activities included the District Convention of the F.U.A., the Summer Re-Union of the Alumni Association, Alberta Women's Institutes Convention, Farm Women's Week, 4-H Club Week, Boys' and Girls' Fair Camp Week, and the Joint Teachers' Convention.

During 1958 a series of public information broadcasts have been made under the direction of Mr. K. M. Stone. These broadcasts made over local radio stations as a public service has publicized School activities over a wide area and have played no small part in the increasing interest shown in the Vermilion School. It is hoped this special activity will be carried on throughout 1959.

Mr. J. A. R. Palin addressed student bodies in some twenty Junior and Senior High Schools throughout the North-Eastern section of Alberta. In addition the Acting Principal attended six "B" and "C" Circuit Fairs with an advertising display for the Schools of Agriculture. This type of publicity has helped to keep the work of the Schools before the public.

Employment of Staff During the Summer

From mid-April until the end of June Miss M. Wright, Mrs. L. C. Johnson, Mr. D. C. Folk and Mr. J. A. R. Palin were instructing for the Vermilion School Division in Shop and Home Economics Classes.

Mr. S. C. Moore was employed by the Town of Vermilion as Director of Recreation for the summer months. Mr. K. M. Stone, Mr. W. M. Burton, Mr. L. G. G. Seath and Mr. E. Boyko returned to their farms for the summer. Mr. J. F. Harcus remained at the School as Farm Manager. Mr. W. Baranyk transferred to Olds on June 1st. His position as Supervisor of Grounds was assumed by Mr. B. J. Godwin, formerly of the Fairview School of Agriculture Staff, during the early part of August. Miss H. Reason was employed by the Field Crops Branch during the summer months. Mr. W. Dietz worked with the headquarters staff for 4-H Clubs. Mr. W. B. Olson remained at the School to carry on his duties as Maintenance Supervisor.

Maintenance

The normal maintenance and repair programme was carried out by the school staff under the direction of Mr. W. B. Olson. Major projects included: Remodeling one-half of the hog house; remodeling the student rooms in the Boys' Dormitory; replacement of shingles on two staff residences; remodeling of one staff residence —kitchen and redecoration of one suite; repair and repainting of the farmyard fences; repair and repainting of the sitting rooms in the dormitory; refinishing of the floors in Classrooms One and Two; construction of a dividing wall with re-installation of water and power outlets in the motors laboratory; repair and repainting of shower rooms in the dormitory; repainting of first storey floors in the College Building; repainting roofs of farm buildings; building a large number of storm windows for the College Building and Dormitory; resurfacing 100 yards of sidewalk; rebuilding the incinerator; building fourteen large tables for classrooms; building dais and lecturn for Dairy Laboratory; painting the ceiling of the Mechanics Building; repainting the Carpentry Shop.

School Grounds and Field Crop Plots

An exceedingly dry growing season resulted in a very poor crop of potatoes and only a fair crop of root vegetables. The vegetable supply will not meet the demands of the dormitory kitchen because of the light crop and increased enrollment.

Field Crops Demonstration Plots continue to attract public interest as well as to supply the School with classroom material for Plant Science Classes.

Mr. B. J. Godwin has been in charge of this work since early August.

The School Farm

An exceptionally dry year with drought conditions during the growing season followed by wet harvest conditions resulted in yields of hay and grain far below normal. The dry year was particularly hard on yields of hay and barley. The barley was seeded into stubble and hence the drought affected barley yields more than other grains.

	Acres	Yield
Wheat	10	240 bus.
Oats	77	3,130 bus.
Barley	38	460 bus.
Hay	98*	90 tons
Greenfeed	79	25 tons
Fallow	32	......
Pasture	78	......
Breaking	34	......
	446	

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*30 acres of pasture land was hayed as well.

Farm sales to Campus and Dormitory January 1st, 1958 to December 15th, 1958 were as follows:

Milk and Cream	Nil*
Eggs	$ 775.68
Meat	1,569.06
	$2,344.74

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* All farm sales of milk and cream this year were made directly to the local Dairy and Creamery. Dormitory purchases of milk and cream were all purchased through the local plant.

Total Farm Sales were $16,767.91.

The 1958-59 Term

Classes enrolled as at December 1st 1958, were as follows:

	Agriculture	Home Economics	Total
First Year	55	11	66
Second Year	40	3	43
"Two-in-One"	21	6	27
	116	20	136

Of the above the following were from the territory served by the Fairview School of Agriculture:

	Agriculture	Home Economics	Total
First Year	13	Nil	13
Second Year	19	1	20
"Two-in-One"	3	Nil	3
	35	1	36

The School continues to enjoy generous support from numerous organizations, commercial companies and private individuals. This support is in the form of publicity, scholarships, prizes and equipment made available for student study, and most definitely adds to the effectiveness of the School.

With larger numbers at the School this term, the extra-curricular activities carried on under the Students' Council are notably of higher calibre and number.

Mr. N. N. Bentley, Principal, spent one year on leave-of-absence with U.N.E.S.C.O. in Cairo, Egypt, returning late in October 1958. Mr. Bentley has received a second leave-of-absence for four months to serve with the Dominion Department of Labour. Mr. J. A. R. Palin continues as Acting Principal pending the return of Mr. Bentley.

Instruction and Administration Staff 1958-59 Term

J. A. R. Palin, B.S.A.—Acting Principal, Instructor in Farm Management and Public Speaking
J. F. Harcus, B.Sc., B.Ed.—Farm Manager, Instructor in Animal Husbandry
W. Dietz, B.Sc.—Instructor in Dairy and Poultry
Mrs. M. Warren, R.N.—School Nurse, Instructress in Home Nursing
W. Burton, B.S.A.—Instructor in Farm Mechanics
K. M. Stone, B.Sc.—Instructor in Field Husbandry
B. J. Godwin, B.Sc.—Instructor in Horticulture
D. C. Folk—Instructor in Farm Buildings
R. M. Warner, B.S.A.—Instructor in English, Mathematics, and Economics and Co-operation
W. B. Olson—Instructor in Metalwork, Maintenance Supervisor
Mrs. L. C. Johnson—Instructress in Clothing and Interior Decoration
Mrs. M. Harcus—Instructress in Home Management
Mrs. I. Alfke, B.Sc.—Instructress in Foods
L. G. G. Seath, B.Sc.—Instructor in Science, Farm Management, and Public Speaking
J. A. Skripitsky—Dean of Men's Residence, Supervisor of Recreation
Miss H. Reason—Instructress in Typing, Record Keeping, Employment Training and Mathematics
Mrs. K. I. Bell—Secretary
H. Cooper—Accountant

FAIRVIEW SCHOOL OF AGRICULTURE AND HOME ECONOMICS

General

The year 1958 was again a difficult year for the farmers of the Peace River area. Much of the 1957 crop stayed out all winter and was burned or harvested this spring. The moisture conditions were excellent but seeding was greatly delayed. Wheat seeded early on summer fallow did fairly well but no rain fell during May and June and late seeded crops failed to germinate at all or were very uneven. Moisture was so lacking that much of the fertilizer never dissolved and could still be found in the soil this fall.

The wheat that was harvested graded well, oats was very light and barley small and of poor malting quality. The hay crop was light but of good quality. Clover seed crop was poor but fescue was good and brome fair.

1957-58 School Term

The 1957-58 school term opening was encouraging with the student enrolment up by 13% from 1956-57.

Unfortunately, about 3:30 p.m. on Friday, March 7th, fire of unknown origin completely destroyed the mechanics building housing the carpentry shop, blacksmith shop, the Gymnasium, the boiler room, and classroom "B". All of the supplies and equipment in these rooms except the boilers and equipment in the boiler room was a total loss.

Classes could not continue in carpentry, blacksmithing, etc., so a new timetable was drawn up to take care of this and the school re-opened one week after the fire when the main building and classrooms were cleaned up and heat was restored.

On March 31st W. R. Knight, Maintenance Supervisor and Instructor in Farm Buildings, passed away.

Under the supervision of and with considerable effort on his part, Mr. B. J. Godwin produced one of the most successful yearbooks to date and it was dedicated to the late W. R. Knight.

Some of the activities highlighting the year were as follows: Outdoor Man's day; Harvest Ball; Sadie Hawkins Dance; Hard Time Dance; Christmas Party; Frontier Night; Play Night and Parent's Day.

Little Royal and Achievement Day

There were no facilities in which to hold the Little Royal and all of the projects made for Achievement Day in the carpentry shop and blacksmith shop were destroyed in the fire so the regular Achievement Day was cancelled.

A Livestock Event was held on Wednesday, April 2nd, so the boys who had put so much effort into training their animals for the Little Royal could finish their project and receive their ribbons and awards.

The best student judges for the year in A, B and C Division of first year boys took part in a judging competition for which Mr. L. T. Jones, Instructor in Animal Husbandry, offered a show halter. This was won by William Bentley.

Graduation prizes were on display in the Library and tea was served in the dining room.

Graduation

Closing exercises were held in the auditorium of the Fairview High School on April 9th, featuring a fashion show and the presentation of awards and scholarships. Mr. A. W. Platt, President of the Farmers' Union of Alberta, gave the graduation address and Mr. A. W. Beattie, District Agriculturist of Berwyn represented the Department of Agriculture and presented the diplomas.

Diplomas of graduation were awarded as follows:

	Agriculture	Home Economics
One Year Course		13
Two Year Course	11	......
Two-in-One Course	6	......
	17	13

Mr. P. Jamieson, Principal, expressed appreciation to the businessmen of Fairview and outside organizations for the valuable prizes offered to students for different phases of classwork and presented at graduation.

Sincere appreciation was also expressed to the Fairview School Division for the use of the Auditorium for the Graduation Exercises.

The following students were named scholarship winners:

Awarded in the spring of 1958:

W. P. Loggie Scholarship—Gerald Mears
Line Elevator Farm Service—Harvey Parlee
Imperial Oil Co. Ltd.—Norman Dreger
Val Newton Memorial Scholarship—John Petterson
Robert Gardiner Memorial Scholarship—Roger Winnicky
Alberta Hatching Egg Producers Scholarship—Norman Goryniuk
Alberta Wheat Board Surplus Monies (University)—Don Brooks
Winner of Staff Pin —Jack MacKay

Courses for Welders

The welding courses started in the fall of 1957 and continued into 1958 when a new class of 24 welders came in in January. These welders worked in two shifts—twelve at a time. The first group had finished their course and written their examination. The second group had just nicely started when the fire destroyed all facilities so that these courses could not continue.

Summer Events

Immediately after graduation, work with the high school students in the Fairview School Division recommenced. Mr. L. T. Jones and Mr. B. J. Godwin taught high school options to a total of 51 boys and Miss J. Regehr and Miss R. Whaley taught home economics options to 41 girls.

Farm Women's Week was held in July from the 2nd to the 4th followed by 4-H Club Week July 7 to 12. These events were well attended and were operated by staff members of the Department of Agriculture from Edmonton and the school staff:

Among other events were:

The Alumni Reunion—June 21st
Cameron Royal Commission on Education—June 27th

Grounds

Mr. B. J. Godwin, Instructor in Horticulture and Botany, was in charge of grounds, gardens, plots and meteorological equipment and reports.

General maintenance of the grounds continued but no garden was planted except some potatoes so seed would be available for 1959 if needed.

Trees were planted between the vegetable garden and the field on the south and many trees had to be replaced in the woodlot after heavy mouse damage during the winter of 1957-58.

Sawfly larvae were abundant on the spruce on the campus but timely spraying prevented any damage to the young trees.

The demonstration plots of grasses and legumes planted in 1957 showed up exceptionally well in 1958.

Information for 1958

Highest temperature recorded—85°—July 15th
Lowest temperature recorded— –20°—January 13th
Annual precipitation—9.23 inches

Farm

The Holstein Dairy herd supplied milk for the dormitory and was used for judging purposes in class. The Angus beef cattle were used for judging purposes and supplied material for classes in butchering and meat for the dormitory. The same applied to the Yorkshire hogs and White Plymouth Rock hens.

300 Light Sussex Chickens were purchased in the spring of 1958.

A dispersal sale was held on May 28th when all farm stock was sold except twenty-two Aberdeen Angus cows and calves and a herd sire.

The cutting down of the herd has made it possible to raise most of the feed necessary for their maintenance.

A seven year rotation as follows on 35 acre fields is continuing and rotational grazing is practised:

1. Fallow and seed to pasture—hay mixture of 5 parts brome, 4 parts red fescue, and 3 parts alfalfa.
2. Hay
3. Hay or Pasture
4. Hay or Pasture

5. Oats
6. Oats } Green feed and silage
7. Oats

The balance of the land is in school grounds and plots and a row of trees encircles the entire farm.

Mr. S. A. Rowe of Fairview is the present farm foreman.

Maintenance

General repair work was carried on throughout the buildings during the year.

A thorough clean up job was done very shorty after the fire when all debris of no value was hauled to the garbage dump and that of some further value was piled for disposal by the Provincial Marketing Board.

The ten stall garage was badly damaged on one side by the fire and this was repaired and painted. The front of the maintenance shop was also repaired after the removal of the breezeway from in front of it.

A complete paint job was done on the inside of the hog barn, beef barn and the loafing part of the dairy barn, as well as some of the trim on these buildings.

The doors and steps were painted on the School residences uptown and the basement floors properly drained with weeping tile and re-poured. This was also done in the farm foreman's house. A room was constructed in the basement of house No. 25.

The re-building of the boiler room with concrete blocks has been completed except for the plumbing.

The 1958-59 Term

The school was closed during the summer and only a skeleton crew remains to take care of the Angus herd, the farm, and to heat and maintain the buildings.

All necessary office equipment has been moved from the main building to the classroom in the Livestock Pavilion for a closer contact with the farm and maintenance foreman and easier administration.

The Officer in Charge is J. T. Lancaster who also acts as part time Assistant to District Agriculturist A. W. Beattie of Berwyn. Miss M. L. Scott continues as School Secretary.

The Instructional and Administrative Staff was as follows:

Peter Jamieson, B.Sc.—Principal, Community Organization
V. W. Osbaldeston, B.Sc.—Farm Motors, Farm Machinery
J. T. Lancaster, B.Sc.—Field Husbandry, Farm Management
B. J. Godwin, B.Sc.—Horticulture, Botany
L. T. Jones, B.Sc.—Animal Husbandry, Farm Manager
R. M. Warner, B.Sc.—English, Public Speaking, Mathematics, and Dean of Men
J. P. Tait, B.Sc.—Science, Entomology and Beekeeping, Economics and Co-operation
W. R. Knight—Farm Buildings, Maintenance Supervisor
J. H. Warne, B.Sc.—Dairying and Poultry
F. H. Klappstein—Metalwork
Miss T. Graham—Dietitian, Employment Training, Dean of Women
Miss F. Falkous, R.N.—School Nurse, Home Nursing
Miss J. D. Regehr, B.Ed.—Clothing, Home Management, Interior Decorating
Miss R. G. Whaley, B.Sc.—Foods, Nutrition, Home Management
J. Knight—Accountant, Record Keeping
Miss M. L. Scott—Secretary, Typing
Mrs. W. Bartlett—Librarian

Report of the 4-H Clubs

C. L. USHER, Supervisor, 4-H Clubs

Priscilla A. Mewha, Associate Supervisor, 4-H Clubs
V. T. Janssen, Associate Supervisor, 4-H Clubs
Nancy Pasochnik, Assistant Supervisor, 4-H Clubs
J. A. Charnetski, Assistant Supervisor, 4-H Clubs

Staff

The addition of John A. Charnetski as Assistant Supervisor, 4-H Clubs brought our permanent staff up to strength. Mr. Charnetski, a graduate in Agriculture from the University of Alberta, comes to 4-H with a long and outstanding record in Boy Scout work.

Additional summer staff which is required to carry through the heavy summer program in 4-H this year included: Miss Gwenneth Nelson, Walter Dietz, Bruce McDonald and E. Rogers. These people were all willing and conscientious workers. A total of ten men were hired on a daily basis as needed to judge at 4-H livestock achievement days.

Administration and Conduct of the 4-H Program

General administration and supervision of the 4-H program again took up considerable time of the supervisor and other 4-H staff members. Besides this, the 4-H staff maintained direct supervision of clubs in areas where district extension offices were vacant. They also conducted all Provincial 4-H activities including: Club Week Programs, Provincial Eliminations, Provincial and Regional Leaders' Courses, Provincial Dairy Show, Provincial Junior Seed Fair, Provincial and Inter-Provincial Thematic Display Competitions, the 4-H section of the Alberta Dairymen's Association and Locker Conventions and other lesser programs. They further assisted substantially at National Club Week, Alberta-Montana Exchange, numerous rallies, achievement days, banquets, Farm Young People's Week, and general 4-H meetings. This staff was also active on the executive and several other committees of the Canadian Council on 4-H Clubs, as well as participating on the committees of the "A" Class fairs, and in livestock and other association work.

The direct supervision of individual clubs in the province and of the overall club program within each district is the responsibility of the district agriculturists and district home economists of the Extension Service. Their work this past year in 4-H involved, among other things:

	District Agriculturist	District Home Economist	Total
4-H Club Meetings attended (including Achievement Days)	1,517	500	2,017
Attendance	54,124	15,196	69,320
Special Features—rallies, tours, camps, field days	412	125	537
Attendance	19,027	10,387	29,414
Persons influenced to attend School of Agriculture	177	35	212
Persons otherwise individually assisted	3,037	1,294	4,331
Members trained for Provincial Eliminations	128	....	128

Further assistance in the 4-H program was given by numerous members of most branches of the Department. The nature of this help is to be found in the various branch reports. In all cases it was very much appreciated.

Assistance of Organizations

Again valuable assistance was given by the three provincial grain, forage and garden club sponsoring organizations, The Alberta Wheat Pool, The United Grain Growers Limited and The Line Elevators Farm Service. This assistance included help in defraying the cost of registered seed grain, paying the total cost of garden seeds, of the transportation, room and board of members from these projects to Club Weeks and leaders to Leaders' Conferences, all of which amounted to $10,462.85. Besides this, they provided numerous prize awards and had their field staff assist with numerous 4-H events.

Additional assistance was also received from the various livestock associations, service clubs, boards of trade, agricultural societies, exhibitions and a large number of other interested organizations and individuals. This assistance added greatly to the program.

Federal Assistance

The contribution of the Canada Department of Agriculture to 4-H in Alberta is primarily a financial one.

This year for the first time the Federal Provincial grant was extended to include the homemaking as well as the agricultural projects. The basis of award of the grant was also changed. Formerly the grant was given to individual members as recognition for achievement in the project. The new basis of award provides $2.00 per member enrolled in a club and is payable at the end of the year providing the club comes up to a minimum standard of efficiency in all activities. This grant is to be paid in a lump sum to the club to be used for club purposes and not divided among individual members. With the introduction of the new grant system to clubs the provincial award for judging competitions in livestock projects was discontinued.

Assistance given during the 1957-58 fiscal year for the Federal Provincial grant, supplies, leadership training, awards and Provincial Eliminations amounted to $7,774.46. Besides this, purebred boars were made available to our swine clubs through the Federal Boar Loaning Policy. Assistance from field staff members was also appreciated.

Club Membership and Distribution

A decrease of 317 members in the homemaking projects is to be noted this year. This was caused through a lack of enough girls of age to form clubs in some areas, through a lack of qualified leaders and through vacancies in several District Home Economist offices. This decline is expected only to be temporary.

4-H CLUB DISTRIBUTION IN ALBERTA* 1957-1958

	1957		1958	
Farm Projects:	No. of Clubs	Members	No. of Clubs	Members
Beef Feeding	164	2,759	161	2,699
Beef Breeding	1	8	0	0
Dairy	38	556	46	738
Swine	7	87	6	94
Sheep	2	36	2	28
Poultry	2	33	2	31
Potato	3	38	3	48
Forage	1	9	3	36
Wheat	46	644	39	561
Oats	34	489	30	437
Barley	26	360	22	316
Total	324	5,019	314	4,988
Decrease (Farm Projects)			10 clubs,	31 members
Homemaking Projects:				
Clothing	96	1,169	78	977
Garden	60	663	47	551
Food	14	201	15	160
Home Decorating	1	9	3	37
Total	171	2,042	143	1,725
Decrease (Home Projects)			28 clubs,	317 members
Total (All Projects)			457 clubs,	6,713 members
Difference (All Projects)			38 clubs,	348 members

Leadership Training

A strong leadership training program was again initiated and carried through by the 4-H staff. This program included the following:

(a) Regional Courses

A total of nineteen Regional One-Day Leadership Courses were held at the following points: Camrose, Tofield, Vermilion, St. Paul, Vegreville, Brooks, Medicine Hat, Lethbridge, Calgary, Westlock, Edmonton, Warburg, Grande Prairie, Red Deer, Olds, Hanna, Drumheller, Stettler, and Lacombe.

These courses atttracted a total of 640 leaders and their assistants from all sections of the province. The program in each case involved a study of local club problems, the co-ordinating of regional activities and new ideas on programming. For the first time the Department assumed the cost of hall rental, where a local sponsor did not provide the accommodation. This was much appreciated by the leaders who bore all their own costs of meals and transportation to these courses.

(b) Provincial Courses

A two day Provincial Course was held at Olds School of Agriculture in April for the leaders of summer projects and another in October for the leaders of winter projects. To these one leader from each club was invited. All were guests of the Department of Agriculture and provincial sponsoring organizations. The courses were designed to familiarize leaders with the project program for the season ahead and to allow discussion on other pertinent 4-H matters. A total of 46 leaders attended in April and 105 in October.

4-H Club Weeks

Four Club Weeks were held at the three Schools of Agriculture —one each at Fairview and Vermilion and two at Olds. A total of 469 official 4-H club delegates were in attendance at these courses while visiting delegations included 2 club members from Saskatchewan at Olds and 9 members from the British Columbia block at Fairview. Each week began Sunday afternoon and ended Saturday morning and included a full and balanced program of work, recreational and social activities. Junior leadership training in particular was stressed at all courses.

Scholarships

(1) Wheat Board Surplus Monies Trust Fund Scholarships:

A total of 21 scholarships from the Wheat Board Surplus Monies Trust Fund were awarded at Club Weeks as follows:

Fairview:	
Girls' Section	1. Patricia Hoag, Bad Heart 2. Loretta Clegg, Crooked Creek
Boys' Section	1. Wes Clarke, Bonanza
Vermilion:	
Girls' Section	1. Emily Malowany, Star 2. Josie McDonald, Mannville 3. Nady Shomachuk, Cherhill
Boys' Section	1. Jim Christensen, St. Lina 2. Ardwyn Stonehocker, Cherry Grove 3. Wendel Lund, Hughenden
Olds (First Week):	
Girls' Section	1. Teresa Ann Gonda, Halkirk 2. Evelyn Kochan, Flatbush 3. Patricia Brown, Eckville
Boys' Section	1. Bill Avison, Ponoka 2. Larry Paul, Namao, P.O. 3. William Lane, Byemoor
Olds (Second Week):	
Girl's Section	1. Betty Bricker, Blackie 2. Luann Eslinger, Carbon 3. Grace Einarson, Markerville
Boys' Section	1. Norman Bauer, Hilda 2. Dale Wyatt, Vulcan 3. Erwin Yule, Gleichen

The above scholarships given annually are each to the value of $100.00 and are tenable at a regular winter course at the Schools of Agriculture. The scholarships are awarded on the basis of past club record, participation in activities during Club Week, and knowledge of subject matter covered at Club Weeks.

(2) Canadian National Exhibition Scholarship:

This scholarship goes annually to an Alberta farm boy or girl with 4-H training. It is valued at $750.00 and is payable toward a University degree in Agriculture, Home Economics or Veterinary Science. The scholarship was this year awarded to Louise Roose, Ohaton. Louise is now enrolled in Home Economics at the University of Alberta.

(3) Alberta Wheat Pool Bursaries:

The Alberta Wheat Pool Bursaries of $200.00 each to students in first, second and third year Home Economics at the University of Alberta were awarded to:

Third Year—Ann Mitchell, Czar
Second Year—Natalka Semotiuk, Newbrook
First Year—Rosemarie Wenger, Egremont

These scholarships are available only to members of garden clubs.

(4) **Henry Wise Wood Memorial Scholarships:** Valued at $135.00; to attend Schools of Agriculture; awarded to: Wilson Redgwell, Carbon; Dorothy Hebson, Okotoks and Loya Stonehocker, Cherry Grove.

(5) **Wheat Board Surplus Monies Trust Bursary:** Awarded to Chester Jacknisky, Thorhild, to attend School of Agriculture.

(6) **Winnipeg Grain Exchange Bursary:** Awarded to Jerry Schlisser, Graigmyle, to attend School of Agriculture.

(7) **Rotary Scholarships—Edmonton Exhibition:** Valued at $100.00 each; awarded to Alice Fraser, Clyde and David Hueppelheuser, Blackfalds, to attend School of Agriculture.

Provincial Eliminations

This year for the first time delegates to Provincial Eliminations had the option of competing for either the Montana Exchange trip or National Club Week. The ruling was also introduced that any member having once won either of these major awards would no longer be eligible to compete for the other. It is hoped this will spread our two major award trips among more 4-H'ers.

Provincial Eliminations drew a total of 191 club members, each one a winner from district eliminations held earlier. Selection was on the basis of 50% for past record in 4-H and 50% for knowledge of the project as determined through competition.

Project	No. of members competing	Nation Club Week Winners	Montana Exchange Trip Winners
Beef	62	Gordon Church, Balzac Sam Harbison, Stettler Fred Wilson, Killam	John Lockhart, Hartell
Dairy	22	Bill Avison, Ponoka Charles Bowie, Morningside	
Sheep, Poultry, Swine & Potato	6	Dorothy Hebson, Okotoks	
Grain	33	Steve Hadnagy, Bow Island Jim Lockhart, Hartell	Norman Cowling, High River
Clothing	28	Joan Clennett, Mannville Carolee Bates, Herrington Virginia Witwicki, Radway	Joan Finlay, Mannville
Garden	23	Grace Einarson, Markerville Alice Fraser, Clyde	Eileen Szymanek, Eckville
Food and Home Decoration	17	Lorna McKeage, Ridgeview	

Alberta-Montana Exchange

This was the twelfth year of the Alberta-Montana 4-H Exchange. Again as in past years nothing but glowing reports were received of the trip.

The Alberta delegation to the State 4-H Club Congress held in Bozeman, Montana, August 25th-29th, was accompanied by V. T. Janssen and Miss Amelia Randle, District Home Economist, Calgary. The delegation had an opportunity to take part in many phases of the week long program involving about 750 Montana 4-H'ers, their leaders and extension workers.

The delegation from Montana to Club Week at Vermilion this year included Dianne Undem, Terry, Montana; Dorothy Potts, Auster, Montana; Gerald Barberet, Toston, Montana; and Philip Malcolm, Hoffman Route, Livingston, Montana. Chaperoning these young people were Miss Margaret Kuhl, Associate State 4-H Leader and Miss Mary Maloney, Assistant Editor of Information. This group contributed a great deal to our week at Vermilion and at the same time were able to gather some new ideas to take home to Montana.

National Club Week

National Club Week, which is conducted annually by the Canadian Council on 4-H Clubs, was held in Toronto and Ottawa, November 15th-20th. In attendance were 139 4-H delegates from all provinces and a special delegation of ten 4-H'ers and their chaperones from the United States. This is the first year a U.S.A. group has been invited to take part in the National Club Week program.

The seven boys and seven girls representing Alberta at National Club Week were accompanied by L. D. Williams, District Agriculturist at Camrose, and Miss Nancy Pasochnik, Assistant Supervisor, 4-H Clubs. The Alberta delegates took leading parts in the program and were good ambassadors for this province.

Royal Winter Fair

Alberta 4-H'ers once again gave an outstanding account of themselves in the 4-H and open class seed divisions at the Royal Winter Fair. Gail Adams of Munson won the World Wheat Championship while other 4-H'ers took 23 of the first 24 places in the 4-H wheat class, 9 placings in barley, 8th in oats and 10th in potatoes. A further six 4-H'ers placed well in the open grain classes.

Camps, Rallies and Tours

These events are becoming increasingly popular in the 4-H program.

Successful lake camps were held at Elkwater and Buffalo Lake and fair camps at Camrose, Vegreville, Vermilion and Edmonton. Besides this, the Calgary Exhibition Association sponsored a four day camp in conjunction with a newly developed Rural Youth Week and Lethbridge held two consecutive two day campus. Total attendance at these camps was 900. All were under the supervision of the Department of Agriculture.

Winter rallies and banquets, each involving a number of clubs and attracting hundreds of people, were held at many points throughout the province. Summer rallies at Experimental Farms, Schools of Agriculture, the University and on outstanding stock and grain farms also continued to be popular. Besides these, the homemaking projects held a total of 12 rallies in May. At these the district winners were selected.

Educational Displays

The building of educational displays and floats was again undertaken by many clubs as secondary project work. These displays depicting 4-H club work, good homemaking and farming practices were exhibited at all A and B class fairs as well as at numerous smaller fairs and 4-H Achievement Days. Many worthwhile ideas are being illustrated through these displays.

The Provincial Competition saw 8 entries at Edmonton and 8 entries at Calgary. The winner at Edmonton was the Ohaton Food Club and at Calgary the Cochrane Beef Club. These top two displays were entered in the Inter-Provincial Competition in Regina where the Cochrane Beef Club display took second place.

4-H Club News

This twelve page bulletin is produced by the 4-H staff and sent to all 4-H families and others directly associated with the program. The bulletin deals with 4-H at a provincial level and has proven a good medium for passing along information to 4-H members. Four issues were produced and distributed in 1958.

Press, Radio and T.V.

A very wide coverage of 4-H events was carried by Press, Radio and T.V. in all parts of the province with some programs now being devoted entirely to 4-H. Besides this, the Department's

"Call Of The Land" program also featured some major 4-H events and "Farm Notes" ran numerous articles dealing with 4-H. To all this publicity the 4-H staff contributed regularly through interviews given and articles written as requested.

AGRICULTURAL PROJECTS

Beef Feeding Clubs

This project continued to be the most popular with 2,700 members enrolled. For the first time an effort was made to get carcass grading reports for the members on all animals going through the major packing plants. This involved the co-operation and assistance of the packing plants and the federal graders. The tabulated scores on the carcasses were enthusiastically received by members, parents and judges. Permission was also obtained to use a ribbon brand on graded 4-H beef carcasses reading "ALTA 4-H SHOW". A new multiple animal project introduced in the fall of 1958 will allow senior members to carry a pen of five animals in place of or in addition to a single animal. It will be possible for both projects to be carried in the same club providing at least three members are enrolled in either one and the total club membership is twelve or more. It is hoped this will familiarize members with some of the common practises involved in commercial feeding.

Dairy Calf Clubs

Again we note a marked expansion in this project with an increase of eight clubs. This increase brought even heavier demands for calves being offered through the Dairy Heifer Calf Policy. The work involved in this policy was again ably handled by the Livestock Branch. A total of 296 calves selected from the Edmonton Milk Shed were supplied to members at $32.50 each through the policy.

The Second Year Dairy Project Book was completed and distributed to the members. This proved most acceptable.

The Alberta Dairymen's Association had as their guests 26 members representing the clubs from Red Deer North at their Annual Convention in Edmonton. The delegates were given this trip as an award for outstanding work in the club.

The Provincial Dairy Show held in conjunction with the Red Deer Fair attracted a total of 31 calves and 26 yearlings. This is an all time high brought about partly by the increased assistance in transportation being offered by the Alberta Dairymen's Association. This now provides clubs with $5.00 for every 50 miles distance they bring animals up to a maximum of $25.00 per club. Top award in the calf class went to Mary Jane Clarke of Didsbury and in the yearling class to Roberta Enman of Wetaskiwin. Best showman was Roberta Enman. The very best of co-operation and assistance was received from the Alberta Dairymen's Association and the Red Deer Fair Board.

Swine Clubs

Only 6 swine clubs were in operation but these did a very worthwhile job. Appreciation goes to the Canada Department of Agriculture for their assistance in loaning boars and in providing a limited advanced registry scoring service for the members.

Some work was done towards producing a Swine Club Project Book.

Sheep Clubs

Clubs were active during 1958 at Cherry Grove and Okotoks. Besides this, two new clubs have now organized at Lacombe. These are carrying the breeding project.

An agreement was reached during the year with the Canadian Co-operative Wool Growers Association whereby that organization will assist in the formation of sheep breeding clubs. This assistance is in the form of a loan to club members to cover the initial cost of the animals. The loan is at 5% repayable in two years. The only other binding clause in the contract is that the wool must be sold to the Canadian Co-operative Wool Growers Association.

It is expected that this assistance will make the sheep projects considerably more attractive.

Poultry Clubs

Not a popular project in most areas but two clubs successfully completed the year. Appreciation goes to the Poultry Branch for assistance with this project.

Crop Clubs

The trend at present is still to livestock projects but in spite of this there were a total of 97 crop clubs active in 1958. The favorable growing conditions in the south reflected in the outstanding plots and samples of grain from clubs in that area.

Winners in the Provincial Plot Competition were:

Wheat—Darryl Smith, Bow Island
Oats—Peter Skitsko, Bruderheim
Barley—Jim Grose, Clive

It is gratifying to note the formation of two new forage clubs as this is a very worthwhile project.

Work was started on the First Year Grain Club Project Book.

The fifteenth Annual Provincial Junior Seed Fair was held in conjunction with the Calgary Chamber of Commerce Seed Fair and Short Course. This again proved popular with a total of 405 samples being entered in the 11 classes. Further interest in the newly introduced potato class was gratifying. Several hundred people visited the Fair.

HOME ECONOMICS PROJECTS

Clothing Clubs

The clothing project continues as the most popular of the fall projects. Although there has been a decrease in number of clubs, indications are that this is temporary and an increase is again evident for this coming year.

Revised first year project books were completed in time to be used this year. A start has been made on the revision of the second year book and the completed section distributed. Achievement Days held in May proved to be very successful and well attended. This year three members were selected from the clothing project to attend National Club Week as compared with two in past years.

Food Clubs

The food project while not as much in demand as clothing is proving very worthwhile where carried. Because of the comparative number of clubs only one delegate was sent from the combined food and home decoration projects to National Club week.

Home Decoration Clubs

This is a minor project with only three clubs in operation. Where carried it proved most successful and was enjoyed by all members.

The T. Eaton Company again presented pinking shears and timers to the winners in each Food, Clothing and Home Decoration club. The selection for this award is based on the club member record. Seventy-six awards were made in clothing clubs, fifteen in food and three in home decoration.

Garden Clubs

The tendency this year was for fewer clubs with greater average membership per club. This project continues to be a popular one. The season this year was favorable for the project and exhibits at Achievement Days were of high quality.

All garden plots were judged by the district or headquarters staff with assistance from the Alberta Wheat Pool Fieldman or the District Agriculturist.

The Alberta Wheat Pool awarded 48 prizes for the best garden plot in each club and 16 awards for obtaining the highest standing in each District Home Economist's district. The latter was in the form of a book to be added to club library. This year the book presented was a loose leaf binder containing a collection of recreation booklets.

Those garden clubs receiving this award were: Prairie Meadow, Ridgeview, Round Head Creek, Namao, Holborn, Crooked Creek, Hairy Hill, Clive, Three Hills, Evergreen, McKinley, Byemoor, Innisfree, Metiskow, Clyde, and Lone Ridge.

Two members from the garden clubs were again selected to attend the Alberta Locker Association Convention. These were Margaret Johnston of Blackie and Lynn Nash of DeWinton. The girls gave a demonstration on "Frozen Strawberries For Dessert".

Report of the Radio and Information Branch

E. B. SWINDLEHURST, Supervisor
E. V. Hamula, Senior Commentator
C. Scott Flewitt, Commentator
Ruth Scinta, Secretary-Writer

A steady flow of helpful information is the objective of the Radio and Information Branch. Through the media of radio and press, matters of farm interest are introduced and discussed.

"Call of the Land", now on the air for its sixth successive year, brings news and views of agriculture from farm people, research men, extension personnel, administrators, visitors of note and many others. The news is timely and the views provide an interesting background to the constantly advancing world of agricultural effort.

"Science and the Land" and "Farm Notes" are the written releases. Distributed weekly, they furnish reports of progress in the field of farm science and provide suggestions from technical staff of the Department. Encouraging is the interest with which the work of the branch is received and to the many who have helped in the past year's activities go our appreciation and thanks.

Radio Production

"Call of the Land", a Monday to Friday noonday farm radio feature, was broadcast 261 times on each of seven Alberta radio stations this year. The ten minutes program is now in its sixth year of production. Stations broadcasting "Call of the Land" in 1958 were as follows:

CFGP, Grande Prairie	12:05 p.m.	CKRD, Red Deer	12:45 p.m.
CFCW, Camrose	12:05 p.m.	CFCN, Calgary	1:00 p.m.
CKUA, Edmonton	12:30 p.m.	CHAT, Medicine Hat	1:05 p.m.
CFRN, Edmonton	12:45 p.m.		

Late in December negotiations were completed with CJDV Drumheller for a 12:45 p.m. time commencing Jan. 1st, 1959.

The primary objective of the radio personnel in this branch is to make the best possible use of radio as an agricultural information medium. To best achieve this, effort is continually being made to provide broadcasts of a variable and appealing nature to as many rural homes as possible. This year more attention than ever before was concentrated on variety of programming. Service to and liason with commercial farm broadcast personnel, on-the-spot reports and interviews, advertising of Alberta Department of Agriculture services, and special emphasis on farm safety all received attention.

The discontinuance of a long established farm broadcast in the Edmonton area early in the year greatly increased sustained interest in "Call of the Land" for this area.

The feature is produced, recorded and distributed from the studios of the Radio and Information Branch in the Terrace building. Excellent co-operation was received from the engineering and managerial staff of CKUA. This year technical facilities of CKUA were used more often for direct transmission of broadcasts to and from other parts of the province.

Listener Appeal

Basically there are two methods of gauging popularity and desirability of radio broadcasts: These are listener surveys and listener response. Incomplete surveys can be misleading. Thorough surveys cost a great deal of money and require a much larger staff than we have available to conduct them.

Listener response this year has been greater than ever before. On numerous occasions as many as two dozen telephone calls or letter requests were received shortly after broadcasts were aired. This is good for an information type of show. It is only to "gimmick" and "high-prize" give-away types of radio shows that listeners respond by the hundreds. A fast moving, 10 minute, up to date, information type broadcast has its place on radio and should be compared only to news broadcasts when the appraisal is made on the basis of listener response.

"Call of the Land" is patterned to conform with the latest in radio trends and listener habits. Judging from comparisons with similar broadcasts elsewhere on the continent, we must conclude that this branch is supplying an essential and highly rated service to rural Alberta.

Late in the year, the National Safety Council awarded a certificate of commendation to the Department for its effort in publicizing the farm safety theme in its radio broadcasts.

Programming

In gathering material this year a great deal of effort was put into providing an interesting variety of material pertaining to all phases of farming in Alberta. Also more attention was given to varying the presentation of material. More items per broadcast were aired. More on-the-spot reports and interviews were made. Editorial discussions were made often but were cut shorter than previously, while panel discussions were deemed not too desirable from an appeal point of view and thus were reduced in number.

The following table illustrates these trends during the past three years:

Type of Programming	No. of Programs 1958	No. of Programs 1957	No. of Programs 1956
The personality Interview	108	109	168
On-the-spot reports and Interviews	95	70	33
Misc. items & announcements	29	31	43
Editorials (by commentators or guests)	19	35	15
Panel discussions	9	15	0
Musical (Special days—Christmas)	1	1	2
	261	261	261

To maintain an interesting and fast moving broadcast, time limitations of 5 to 6 minutes are placed on interviews and 3 minutes on commentaries. Announcements are edited down to less than one minute each. Such a policy makes it possible to carry as many as 6 items in one broadcast. This year 712 items were aired on 261 shows.

The following table shows the nature of the material used and the number of times dealt with during the year, as compared to the previous year:

Nature of Material	Incidence 1958	Incidence 1957
General Agriculture (Including World and National Items	73	106
Livestock	159	90
Field Crops	149	122
Farm Safety	56	22
Farm Management	51	21
4-H	29	15
Poultry	27	18
Dairying	26	26
Veterinary Science	22	26
Horticulture	21	22
Farm Mechanics	18	12
Agricultural Pest Control	15	11
Schools of Agriculture	13	19
Beekeeping	7	8
Fur Farming	6	6
Misc. Topics (other than above)	35	69
	712	593

Sources of personality appearances for the year as compared to the last two years were as follows:

	No. of Appearances 1958	No. of Appearances 1957	No. of Appearances 1956
Alberta Department of Agriculture	91	85	215
Other Alta. Govt. Departments	27	12	13
Canada Dept. of Agriculture	8	21	17
University of Alberta	15	8	16
Farm people (including 4-H)	109	128	128
Others	44	108	61
	294	362	404

To provide the desired variety and local color extra travel to all parts of the province and many special programs were necessary. Among the special series were seven daily features originating from the Royal Winter Fair. For the first time this year these were relayed to the radio stations by Alberta Government Telephones network, each morning, thus providing an up to date reporting service. In addition daily night press letter reports of Alberta winnings at the "Royal" were supplied to four radio stations (including CBC's Edmonton farm department) and daily papers in Edmonton and Calgary. This was the fourth successive year in which reports to Alberta from the "Royal" were made. The "Royal" assignment was handled this year by C. Scott Flewitt, who also worked in close liason with the Department of Economic Affairs in providing television and newsphoto service as well. Many complimentary remarks were received on the speed and quality of the coverage.

The tape service instituted two years ago was continued this year on an expanded basis. Fifty items containing agricultural information, varying from short spots to 6 minute panel discussions, were available for distribution during the year. This was 25 more than last year.

Among the many special programs aired were daily coverage of conventions of the Alberta Federation of Agriculture, Farmers Union of Alberta, Alberta Dairymen's Association, Western Stock Growers, Alberta Veterinary Medical Association, Western Flying Farmers and Canada Mink Breeders, as well as the Calgary and Edmonton Exhibition and Livestock Shows. Other specials included Farm Safety Week and special safety features throughout the year, the egg marketing plebicite, forest fire prevention, farm management and hog quality improvement.

During 1958 twenty-one programs featured guests from other countries. They included 17 from the United States, two from Germany, one from Australia and one from Great Britain.

This Branch sincerely appreciated the excellent co-operation received from the Department of Lands and Forests, the Provincial Secretary's Department, the Departments of Municipal and Economic Affairs who assisted in making many of the above programs possible. Also appreciated is the fine association with the many agricultural organizations in the country as well as the University of Alberta and the Canada Departments of Agriculture and Veterans Affairs.

As of December 31, 1958 this branch has produced 1501 continuous Monday to Friday farm broadcasts.

Science and the Land

Seventy-one items on a variety of farm topics were released this year under the heading "Science and the Land". This publication, prepared in co-operation with research personnel, contains popular reports of results and progress of scientific investigation as it affects the farmer.

Visited during the year were the Plant Pathology, Field Crop Insect and Livestock Insect Laboratories of Science Services at Lethbridge, the Science Service Laboratory of Plant Pathology in Edmonton, the Departments of Plant Science, Animal Science, Soils and Entomology at the University of Alberta, and the Experimental Farms at Lethbridge, Lacombe, Beaverlodge and Fort Vermilion.

Close co-operation of research men at all centres visited resulted in observation, discussion, and perusal of theses and reports which led to assembling and release of the material required. Science and the Land topics in 1958 included livestock, soils and fertility, forage crops, horticulture, weeds, plant diseases and insect pests. Presented in non-scientific language, the information was made available weekly to press, radio, government personnel, commercial concerns and libraries.

As well as regular calls at the research centres named, opportunity occurred during the year of attending the annual conference of the Entomological Society of Alberta, and sessions of the advisory committees on cereals, forage crops, fertilizers, pests and horticulture.

Farm Notes

Farm and home economics items were continued weekly in 1958 under the letterhead "Farm Notes".

Mailed to 800 recipients, the information was relayed via radio, television, daily and weekly newspapers, magazines and other agricultural publications. The mailing list also included provincial, dominion and foreign government officials, and commercial company heads directly and indirectly associated with agriculture. Libraries from near and far also received copies.

The articles dealt with horticulture, soils and weed control, pest control, crop improvement, credit purchase act and farm loans, and community pastures. Other topics included livestock, veterinary services, poultry, Alberta Schools of Agriculture, dairying and dairy cost studies, farm management, agricultural engineering, beekeeping, fur farming, fairs, meetings and 4-H activities. In the women's field, interior and exterior decorating, home designing, sewing, cooking and baking were discussed.

Farm Notes are prepared by the Secretary-Writer, who obtains the information from Department specialists. Fifty-two releases in 1958 featured a total of 308 articles.

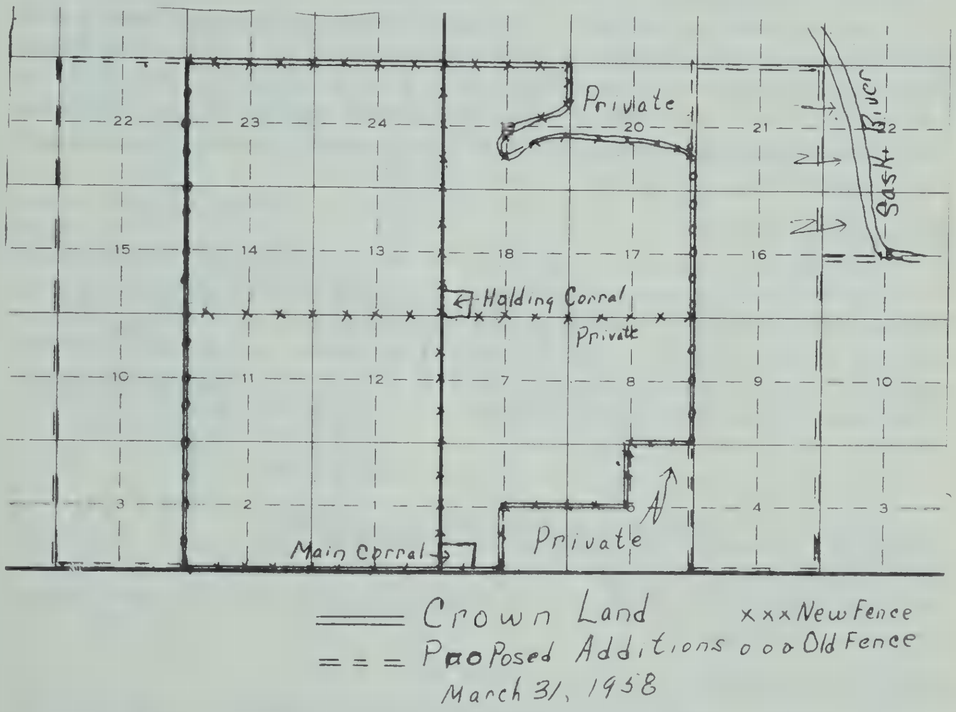
Report of the Land Conservation and Utilization Committee

G. R. STERLING, Chairman

The personnel of the Land and Forest Utilization Committee remained the same as reported in the 1956 Department of Agriculture report with the exception that Dr. J. D. Newton was away for part of 1958 and was replaced by Dr. C. F. Bentley. The committee held two meetings to establish policy and the new and old policies were carried out or developed by the Chairman.

Rannock

The Government purchased the NE 19-55-10-4 and SE 20-55-10-4 and at the end of 1958 owned the area as indicated in the sketch map.



The owners of the following refused to sell:

S½ -5-55-10-4	SE -6-55-10-4
NW -8-55-10-4	N½ 20-55-10-4

All of the cultivated acres in this area were worked and seeded to a pasture mixture of Creeping Red Fescue, Brome and Alsike Clover. Fall inspections indicated a reasonably good catch. Another 12 to 15 man days will complete the fencing as indicated on the map and the sorting corrals were completed.

The committee recommended and the Government agreed to add to Rannock pasture by purchasing the following land: sections

3, 10, 15 and 22, all in 55-11-4 and 4, 9, 16, 27, part of W½ 22, and part of SW 15, all in 55-10-4. At the end of the year the following lands were in the name of the Crown: E½ 22 and SW 10 in 55-11-4. The government was holding purchase agreements on the following: NE 3, SE 10, NW 10, and E½ 15, all in 55-11-4 and part of SW 15, all in 55-10-4.

Wanham Area

Late in 1957 the committee recommended the establishment of four fertilizer demonstration farms in the Wanham and Silver Valley areas. These demonstrations were located on the R. G. Green, Robert Wade, and J. L. McNamee farms, all of Wanham and the H. E. Fox farm of Silver Valley. In spite of the dry year, fertilizers gave a yield increase. Detailed results are on file.

The Dept. of Lands and Forests named a committee to assess all of the Wanham units. The chairman of the Land Utilization Committee was asked and acted as chairman of the above mentioned assessment group. Three weeks of field work were spent on this project plus some office time compiling data etc.

M.D. of Wetaskiwin

The Wetaskiwin municipality requested the committee to investigate and to establish a community pasture within their M.D., the location to include the following lands: sections 4 to 9 and 16 to 18 inclusive, all in 47-5-5 and 1 to 4 inclusive and 9 to 16 inclusive all in township 47-6-5. The committee at their December 16 meeting, recommended to the Government that such a pasture be established.

M.D. of Minburn

This M.D. requested help with an area south-east of Minburn. The Committee recommended and the government agreed to purchase the following lands and to establish a community pasture. Sec. 5 to 8 inclusive and 17 to 20 inclusive all in 49-9-4 and sections 1, 12, 13 and 14 all in 49-10-4. At the close of the year, purchase agreements were held on:

E½	18-49- 9-4
All	13-49-10-4
SE	24-49-10-4

Late in the year, the Minburn M.D. requested that a start be made on an addition, namely the following lands: sections 18-22 inclusive and sections 27-34 inclusive, all in 49-9-4. The committee recommends that these lands be purchased and the Minburn pasture increased.

M.D. of Westlock

This municipal district requested help with an area in the north-eastern part of their M.D. After investigation and a report on the area by the chairman, the committee recommended that the following lands be purchased and established as a pasture: Sections 13 to 16 inclusive, 21 to 28 inclusive, and 33 to 36 inclusive, all in 61-23-4.

County of Grande Prairie

The county of Grande Prairie requested help with the area known as Kleskun Lake which is in an easterly direction from Sexsmith. The chairman and Mr. J. A. Campbell investigated the area. This area was low, peaty and in some places marshy. Both of the above were of the opinion that this area should be used for hay, when dry enough, rather than for pasture purposes. As this land was in the name of the M.D. and was leased by them for hay cutting, the committee decided to leave this land in its present use.

Green Yellow Areas

The chairman conducted a preliminary survey of the Green-Yellow line along the West Boundary of the M.D. of Mountain View to determine where this line should be and what areas should be bought out. The committee recommended and the government agreed to purchase lands in the following Green area: (1) all of I.D. 50. (2) That portion of I.D. 58 in twps. 31 and 32, Rge. 7, W5. (3) That portion of the M.D. of Mountain View in the West halves of each of twps. 29 and 30, Rge. 5, W5. (4) That portion of the M.D. of Mountain View in twp. 29-6-5.

Letters offering to purchase these lands were ready to be mailed at the close of 1958.

Soil and Feed Testing Laboratory

The chairman of the conservation and utilization committee was a member of the Supervisory Committee of the Agricultural Soil and Feed Testing Laboratory. Two meetings were held to direct the policy of this laboratory. A substantial increase in samples submitted was noted due partly to broadcasting over "Call of the Land". A total of 2,378 were handled in 1958 compared to 1,649 and 1,543 in 1957 and 56 respectively. Below is a table showing samples submitted and a breakdown of the feed samples. Note that only 390 feed samples were analyzed for nutrients, plus some type of special analysis, in which case the one sample was counted twice because there was more work to the special analysis than the nutrient one.

SAMPLES SUBMITTED TO ALBERTA SOIL AND FEED TESTING LABORATORY
JANUARY 1 - DECEMBER 31/58

TABLE I

	Feeds	Farm Soils	Greenhouse Soils	Total for Quarter
January 1-March 31	167	163	256	586
April 1-June 30	56	427	70	553
July 1-September 30	43	202	188	433
October 1-December 31	124	531	151	806
Total for Year	390	1,323	665	2,378

BREAKDOWN OF FEED SAMPLES ANALYZED

TABLE II

	Grain	Hays	Silages	Special* Analysis	Miscellaneous	Total for Quarter
January 1-March 31	53	67	41	34	2	197
April 1-June 30	36	3	12	4	1	56
July 1-September 30	20	18	2	9	1	50
October 1-December 31	52	46	20	25	5	148
Total for Year	161	134	75	72	9	451

*Nitrates, Prussic Acid; Carotene

Report of the Board of Trustees

OF THE SURPLUS WHEAT BOARD MONIES TRUST ACCOUNT received by the Government of the Province of Alberta, 1916-1919, from the Canadian Wheat Board

HONOURABLE L. C. HALMRAST, Chairman, Minister of Agriculture
R. M. Putnam, Deputy Minister of Agriculture
H. W. Gaebel, Secretary, Department of Agriculture
Richard Ballhorn, Farmer, Wetaskiwin, Alberta
Arthur Pierson, Vice-President and Treasurer of the Independent Grain Co., Calgary

Receipts for the year ending December 31, 1958 totalled $3,522.62 all of which was in payment of interest on investments.

Payments for the year ending December 31, 1958 amounted to $5,243.19 and were made up as follows:

Scholarships	$1,225.00
Meeting Expenses	30.00
Purchase of $4,000.00 of Ontario Hydro-Electric debentures	3,988.19
Total	$5,243.19

Detailed statement of receipts and expenditures, along with a statement of assets and liabilities is attached hereto.

Investments

Government of Canada	3¾%	debentures	$ 2,500.00
Province of British Columbia	3 %	debentures	45,000.00
Province of New Brunswick	3½%	debentures	45,000.00
Ontario Hydro Electric	4¼%	debentures	4,000.00
Province of Newfoundland	3¾%	debentures	4,000.00
City of Calgary	3½%	debentures	4,000.00
Total			$104,500.00

Meetings

A meeting of the members of the Board was held on June 25, 1958. The Scholarships awarded to students entering the University of Alberta from the Agricultural Schools were increased from $125.00 to $150.00 at this meeting, making a total of $3,650.00 in scholarships available for the coming year.

General

The Board has continued the policy of conserving the principal remaining in the Trust Fund, making all expenditures from income received from investments.

Scholarships totalling 406 in number and valued at $33,291.26 have been paid as at December 31, 1958, since the Board instituted the policy of providing scholarships.

List of Scholarship Winners Named During 1958

4-H Club Winners—$100.00 each

Evelyn Kochan, Flatbush
Teresa Gonda, Halkirk
Patricia Brown, Eckville
Bill Avison, Ponoka
Larry Paul, St. Albert
William Lane, Byemoor
Betty Bricker, Blackie
Luann Eslinger, Carbon
Grace Einarson, Markerville
Norman Bauer, Hilda
Dale Wyatt, Vulcan
Erwin Yule, Gleichen
Patricia Hoag, Bad Heart
Wes Clarke, Bonanza
Loretta Clegg, Crooked Creek
Emily Malowany, Star
Josie McDonald, Mannville
Nady Shomachuk, Cherhill
Jim Christiansen, St. Lina
Ardwyn Stonehocker, Cherry Grove
Wendall Lund, Hughenden

To University of Alberta from Agricultural Schools—$150.00 each

K. Stiles, Didsbury

University of Alberta Young Peoples Week—$100.00 each

Leroy Pelletier, Pincher Creek
Eunice Gray, Marwayne

Women's Institute Girls' Club—$100.00
Sheila Stearns, Carstairs

Open Scholarships for any Young Person to attend a School of Agriculture—$100.00 each

L. T. Velichka, Hines Creek	C. Jacknisky, Thorhild
R. E. Huntley, Whitecourt	Fay Mowery, Botha
R. J. E. Winnicky, Ballater	L. A. Arnold, Medicine Hat
L. Y. Werklund, Valleyview	R. F. Everett, Claresholm

TREASURY DEPARTMENT
WHEAT BOARD MONIES TRUST FUND
Balance Sheet as at December 31, 1958

ASSETS

	Par Value	Book Value
Investments:		
Gov't of Canada 3¾% due January 15/78	$ 2,500.00	$ 2,519.60
Province of B.C. 3% due December 15/69	45,000.00	44,746.18
Province of N.B. 3½% due April 1/67	45,000.00	44,887.54
Ontario Hydro Electric 4¼% due November 1/67	4,000.00	3,957.14
Province of Newfoundland 3¾% due June 1/76	4,000.00	3,879.04
City of Calgary 3½% due July 1/68	4,000.00	3,994.68
		$103,984.18
Cash in Bank		3,103.69
Accrued Interest		619.14
		$107,707.01

LIABILITIES

Trust Fund December 31, 1957	$105,394.13
Add: Surplus for 1958	2,312.88
	$107,707.01

TREASURY DEPARTMENT
WHEAT BOARD MONIES TRUST FUND
Accrued interest as at December 31, 1958

Government of Canada Debentures:				
$2,500.00 3¾% Jan. 15/78, 5½ months				$ 42.96
Province of British Columbia Debentures:				
$45,000.00 3%, December 15/69, ½ month				56.25
Province of New Brunswick Debentures:				
$45,000.00 3½%, April 1/67, 3 months				393.75
Ontario Hydro Electric Debentures:				
$4,000.00 4½%, Nov. 1/67, 2 months				28.33
Province of Newfoundland Debentures:				
$4,000.00 3½%, July 1/68, 6 months				70.00
Bank Interest:				
November, 1958	$3,318.69	@ 1¾%	$ 4.77	
December, 1958	3,103.69	@ 1¾%	4.61	9.38
				$ 613.17
Add: Accum. of Discount:				
Accrued on Province of British Columbia			$ .96	
Accrued on Province of New Brunswick			3.31	
Accrued on Province of Ontario			1.19	
Accrued on Province of Newfoundland			.80	
Accrued on City of Calgary			.26	
			$ 6.52	
Less: Amor. of Premium:				
Accrued on Government of Canada			$ .55	$ 5.97
Net Earnings Accrued to December 31, 1958				$ 619.14

TREASURY DEPARTMENT
WHEAT BOARD MONIES TRUST FUND
Statement of Receipts and Payments for the year ended December 31, 1958

Bank Balance December 31, 1957		$ 4,824.26
Interest on: $ 2,500 Government of Canada Debentures	$ 93.74	
45,000 Province of British Columbia	1,350.00	
45,000 Province of N.B.	1,575.00	
4,000 Ontario Hydro Electric	170.00	
4,000 Province of Newfoundland	150.00	
4,000 City of Calgary	140.00	
Bank Balances	43.88	3,522.62
		$ 8,346.88
Deduct Payments:		
Purchase $4,000 Ontario Hydro Electric 4¼%	$ 3,988.19	
Scholarships — Vermilion School	75.00	
Scholarships — Olds School	1,000.00	
Richard Ballhorn — Meeting expense	10.00	
A. Pierson — Meeting expense	20.00	
University of Alberta — Scholarship	150.00	5,243.19
		$3,103.69

Report of the Farm Purchase Credit Act

G. R. STERLING, Executive Assistant

This report is for the period April 1, 1957 to April 31, 1958 inclusive. The Farm Purchase Credit Act was transferred from the Treasury Department to the Department of Agriculture as of August 15, 1957. Applications from Municipalities, Counties, Improvement Districts, and Special Areas, requesting that Farm Purchase Boards be organized, were forwarded to the Department on a voluntary basis. Appropriate agreements as required in the Act were signed between the applying authorities and the Government and the boards were duly constituted by Ministerial Order.

The following districts established Farm Purchase Boards, covering the areas as indicated. Forty (40) boards were organized.

District	Date Board Formed	Area Covered by Board
M.D. of Athabasca No. 103	March 5, 1958	All area of M.D.
M.D. of Bonnyville No. 87	March 20, 1958	All area of M.D.
M.D. of Cardston (Western) No. 6	October 28, 1957	Twps. 1, 2, 3, 4, 5, Rge. 24; Twps. 1, 2, 3, 4, 5, 6, 7, Rge. 25; Twps. 1, 2, 3, 5, 6, Rge. 26; Twps. 1, 2, 3, 4, 5, Rge. 27; Twps. 1, 2, 3, 4, 5, Rge. 28; Twps. 1, 2, 3, Rge. 29; all West of the 4th Meridian.
M.D. of Cardston (Eastern) No. 6	November 14, 1957	Twps. 1, 2, Rge. 19. Twps. 1, 2, Rge. 20; Twps. 1, 2, 3, 4, 5, 6, 7, Rge. 21; Twps. 1, 2, 3, 4, 5, 6, 7, Rge. 22; Twps. 1, 2, 3, 4, 5, 6, Rge. 23; all West of the 4th Meridian.
M.D. of Lamont No. 82	March 13, 1958	All of M.D.
M.D. of Leduc No. 75	March 20, 1958	All of M.D.
M.D. of Lethbridge No. 25	December 5, 1957	All of M.D.
M.D. of Minburn No. 72	November 20, 1957	All of M.D.
M.D. of Mountain View No. 49	October 16, 1957	All that part of the Municipal District of Mountain View No. 49 lying east of the west boundary of Range 4, West of the 5th Meridian.
M.D. of Paintearth No. 53	March 11, 1958	All of M.D.
M.D. of Rocky View No. 44	November 21, 1957	All of M.D.
M.D. of Stony Plain No. 84	January 6, 1958	All of M.D.
M.D. of Strathcona No. 83	October 16, 1957	All of M.D.
M.D. of Sturgeon River No. 90	January 21, 1958	All of M.D.
M.D. of Wheatland No. 40	March 13, 1958	All of M.D.
Improvement District No. 11	December 6. 1957	All of I.D.
Improvement District No. 65	October 28, 1957	All of I.D.
Improvement District No. 77	January 6, 1958	All of I.D.
Improvement District No. 78	January 6, 1958	All of I.D.
Improvement District No. 101	March 26, 1958	All of I.D.
Improvement District No. 102	December 11, 1957	All of I.D.
Improvement District No. 108	October 16, 1957	All of I.D.
Improvement District No. 109	February 3, 1957	All of I.D.
Improvement District No. 124	March 7, 1958	All of I.D.
Improvement District No. 125	March 7, 1958	All of I.D.
Improvement District No. 131	March 7, 1958	All of I.D.
Improvement District No. 132	October 28, 1957	All of I.D.
Improvement District No. 134	February 13, 1958	All of I.D.
Improvement District No. 138	December 6, 1957	All of I.D.
Improvement District No. 139	December 6, 1957	All of I.D.
County of Beaver No. 9	January 17, 1958	All of County
County of Forty Mile No. 8	December 5, 1957	All of County
County of Grande Prairie No. 1	October 29, 1957	All of County
County of Newell No. 4	October 16, 1957	All of County

County of Ponoka No. 3 (West of the 5th)	October 29, 1957	All that portion West of the 5th Meridian
County of Ponoka No. 3 (East of the 5th)	October 29, 1957	All that Portion East of the 5th Meridian
County of Vulcan No. 2	December 11, 1957	All of County
County of Warner No. 5	February 10, 1958	All of County
Special Area No. 2	December 13, 1957	All of Area No. 2
Special Area No. 3	December 13, 1957	All of Area No. 3

Much educational work was done with another 11 districts but ministerial orders forming the boards were not passed as of March 31, 1958.

The Provincial Advisory Committee consisting of G. R. Sterling (Chairman), H. Allan and C. G. Davey was appointed by the minister on October 9, 1957. The first meeting to consider applications was held February 11, 1958.

Seventeen (17) applications were approved up to March 31, 1958 having a total farm Land value of $215,500.00 with Government loans amounting to $79,440.00. None of the loans were processed for payment prior to March 31, 1958. The following table gives the breakdown of loans approved:

District	No. of Loans	Value of Farm Lands	Government Loans
Strathcona (MD)	1	$ 7,500.00	$ 3,000.00
Vulcan (County)	8	91,400.00	35,560.00
Minburn (MD)	1	10,000.00	4,000.00
Cardston (MD)	5	84,400.00	29,000.00
Ponoka (County) Rimbey	1	15,000.00	5,000.00
I.D. No. 11	1	7,200.00	2,880.00
	17	$215,500.00	$ 79,440.00

Report of Alberta Civil Defence

AIR VICE-MARSHAL G. R. HOWSAM, Provincial Co-ordinator
A. J. Lavoie, Deputy Co-ordinator

Civil Defence in Alberta was administered on a provincial and municipal basis. The deterioration of international relations during the year indicated why Civil Defence work should be strengthened.

The authorization for Civil Defence and an outline of the administration authorities appear in the Department of Agriculture Report for the year 1957.

Civil Defence Communications

An outline of Civil Defence communications, developed over the past few years, appears in the 1957 Department of Agriculture Report. Facilities for communication are the same as in the 1957 Report with the following additions: networks of radio have been organized in the Peace River Zone and the Southern Zone (Lethbridge and Medicine Hat area).

Fire-Fighting Equipment

Fire-fighting equipment remains the same as reported in 1957.

Training

During the year 212 candidates attended the Canadian Civil Defence College at the expense of the Federal Government. A total of 493 people from Alberta municipalities were trained in various aspects of Civil Defence work. Most of the cost was on a fifty-fifty federal-provincial basis. (See Appendix "B")

Extension Schools in Civil Defence were conducted at Grande Prairie, Lac La Biche, Edson, Castor-Coronation, Olds, Peace River, Didsbury and Hanna. (See Appendix "B")

No candidates attended the U.K. Civil Defence Staff College during the year.

St. John Ambulance Training

In 1958 5,500 candidates took the regular First Aid Course. The total having this course to date is 48,691 persons.

A total of 369 candidates took the Civil Defence Advanced First Aid Course during 1958. A total of 1,552 have taken the course to date.

The Civil Defence Home Nursing Course was taken by 121 candidates during 1958, bringing the total to date to 298.

Civil Defence Fire Pumpers

The policy of allotting fire pumpers to local towns and cities was continued during 1958. These pumpers are allotted during the winter months only when they are not in use by Civil Defence for training purposes. From January to March pumpers were allotted to Peace River, Athabasca, Lacombe, Hanna and Milk River. In December 1958 they were allotted to Camrose, Peace River, Milk River and the Municipal District of Mountain View No. 49.

During the summer months pumpers were used to train auxiliary firemen in six municipalities. A total of 73 regular firemen were trained, making the total to date 1,846 auxiliary firemen and 2,294 regular firemen trained.

Operations

A description of the warning systems available for Civil Defence may be found in the 1957 Department of Agriculture Report. These warning systems were used periodically throughout the year to ensure the efficient operation of each system.

Five Civil Defence Exercises were staged in Alberta during the year, bringing the total to 24. Costs were shared fifty-fifty on a federal-provincial basis. (See Appendix "C")

Seven Civil Defence Demonstrations were organized during the year, bringing the total to date to 21. (See Appendix "C")

Nineteen Alberta hospitals prepared disaster plans and thirteen have held Disaster Institutes which are actual tests of disaster plans.

Alberta Civil Defence personnel have attended several conferences in Canada and the United States. (See details in Appendix "C")

Special visitors to Alberta during the year were: Liteutenant General Howard D. Graham; Major-General G. S. Hatton, Deputy Federal Co-ordinator; and Mr. R. Byrns Curry, Director Emergency Measures Organization (Federal Government).

Civil Defence Costs

The following table shows the fiscal year costs together with costs to date:

	Federal	Provincial	Municipal	Total
Actual expenditure in fiscal year 1957/58	$144,612.18	$255,044.96	$34,598.38	$ 434,255.52
Total expenditure from 1950/51 to end of fiscal year 1956/57	599,275.62	707,402.62	58,440.94	1,365,119.18
Grand Total	$743,887.80	$962,447.58	$93,039.32	$1,799,374.70

NOTE: Municipal amounts shown are only those shared under the financial assistance program. Therefore, in many instances municipal expenses for Civil Defence are actually in excess of the figures shown.

The net estimated cost of Civil Defence for the fiscal year 1958/59 was $251,424.66.

APPENDIX "A"

ORGANIZATION DETAILS

1. **Municipal Organization**

(a) The first steps in the establishment of a municipal civil defence organization are the passing of a Civil Defence By-Law and the appointment of a Control Committee, and a Director of Civil Defence. As the organization expands, chiefs of various civil defence services such as Health, Welfare, Police, Fire, etc., are selected and voluntary workers are recruited.

(b) Municipalities now organized or in the process of organizing for Civil Defence are:

(i) Cities	9
(ii) Towns	70
(iii) Villages	76
(iv) Municipal Districts	22
(v) Counties	8
Total	185

2. **Visits to Municipalities and Civil Defence Inspections**

Visits by provincial Civil Defence officials and members of full-time staffs maintain liaison between Alberta Civil Defence Headquarters and the various municipalities. During the year 1958, staff officers from provincial headquarters made 390 visits of inspection throughout the Province.

APPENDIX "B"

TRAINING DETAIL

1. Federal Civil Defence School

(a) Since the inauguration of Civil Defence in Alberta, candidates from the Province have been selected every year for training in various aspects of Civil Defence at the Canadian Civil Defence College. Costs incurred in such training are borne wholly by the Federal Government. A limited number of senior Civil Defence officers have also had training at the United Kingdom Civil Defence Staff College, Sunningdale, England, and the United States FCDA Staff College.

(b) Following is a table listing the courses held at the Canadian Civil Defence College and includes mention of the United Kingdom and the U.S. Staff Colleges. The table also shows the number of Alberta candidates trained at these courses:

	Number of Courses		Personnel Trained	
Type of Course	1958	Total to date	1958	Total to Date
Staff "Orientation"	6	27	13	63
Staff "Planning"	2	7	13	34
Staff "Operations"	3	8	17	27
ABC Warfare	Nil	12	Nil	19
ABC Medical	Nil	3	Nil	22
Welfare, General	Nil	18	Nil	66
Welfare, Emergency Feeding	2	8	7	42
Welfare, Emergency Lodging	1	4	5	15
Welfare, Emergency Clothing	1	4	2	12
Welfare, Registration and Inquiry	2	10	10	50
Welfare, Personal Services	1	3	1	10
Welfare, Instructors	Nil	1	Nil	7
Senior Warden	Nil	7	Nil	26
Rescue	7	34	12	70
Tactical Fire Study Forum	Nil	3	Nil	17
Fire, Orientation	1	1	4	4
Radiological Monitoring	4	13	16	44
Fire & Police Radiation Monitoring	Nil	1	Nil	3
Tactical Study Forum	Nil	4	Nil	15
Transportation Forum	Nil	1	Nil	2
Industry Forum	Nil	2	Nil	9
Engineers Forum	1	4	2	14
Women's Course	Nil	1	Nil	11
Technical Reconnaissance	Nil	1	Nil	2
Communications	3	10	15	54
Disaster Study Forum	Nil	3	Nil	13
Nurse Educators & Specialists	2	7	5	32
Casualty Simulation	Nil	7	Nil	23
Casualty Simulation Instructors	1	4	4	15
Physicians & Dentists Indoctrination	2	6	15	45
Pharmacists Indoctrination	3	7	17	40
Health Services Conference	Nil	1	Nil	7
Conf. of St. John Ambulance Instructors	1	1	11	11
Veterinarians Indoctrination	1	1	3	3
Newsmen's C.D. Conference	Nil	2	Nil	22
Pilot Police Forum	Nil	3	Nil	9
Shelter Course	Nil	1	Nil	4
General Instructors	1	16	1	37
C.D. Officers Instructors	Nil	4	Nil	9
Educational Forum	Nil	1	Nil	6
OCDM Staff College (U.S.A.)	Nil	10	Nil	14
U.K. Staff College	Nil	4	Nil	4
Prov. C.D. Co-ordinators Conference	1	5	14	49
Training Officers Conference	1	3	6	16
Directing Staff Conference	1	2	15	26
Civil Air Patrol Forum	Nil	1	Nil	1
Clergy Conference	Nil	7	Nil	7
Conference of Mayors and Reeves	1	1	3	3
C.D. Working Party Study	1	1	1	1
Total	50	285	212	1,035

2. **Alberta Civil Defence School**

(a) Provincial Civil Defence training began in September, 1951. From that date onwards the Alberta Civil Defence School has provided various courses of training for selected candidates from the Province.

(b) The table below lists the courses held at the School and gives the total number of candidates trained to date:

Type of Course	Number of Courses 1958	Number of Courses Total to date	Personnel Trained 1958	Personnel Trained Total to Date
General Instructors	Nil	9	Nil	240
Fire Instructors	Nil	12	Nil	282
Summer School for Teachers	1	7	78	784
Rescue	2	13	53	259
Orientation	2	21	76	498
Welfare	1	12	33	394
Government Inspectors	Nil	1	Nil	36
Alberta Forest Rangers	Nil	2	Nil	133
Pharmacists	Nil	1	Nil	6
Orientation, Agriculturists	Nil	2	Nil	199
Orientation, Nurses	1	2	31	65
Radiation Monitoring	1	13	20	279
Traffic Control Forum	1	1	33	33
Control Room Procedure	4	4	169	169
Total	13	100	493	3,377

3. **Extension Schools.** The following table shows the number of candidates trained in Extension Schools in Alberta:

Type of Course	Number of Courses 1958	Number of Courses Total to date	Personnel Trained 1958	Personnel Trained Total to Date
Orientation	3	5	91	171
Casualty Simulation	1	1	11	11
Radiation Monitoring	5	5	150	150
Rescue	1	1	33	33
Total	10	12	285	365

APPENDIX "C"

OPERATIONAL ITEMS

1. **Civil Defence Exercises.** Since the inauguration of Civil Defence in Alberta in November, 1950, twenty-four exercises have been staged in the Province, mainly on a Federal-Provincial Matching Funds basis. Of this number the undermentioned were carried out during 1958:

(a) Exercise "Rams Head I"—on 13/14 January. This was a Western Command Army exercise with ACDHQ personnel participating.

(b) Disaster Exercise—on 7th May. This was held at the Archer Memorial Hospital, Lamont.

(c) Exercise "Co-operation "II"—on 3/4 and 9th May. This was a national exercise.

(d) Evacuation Exercise—on 14th June. This was held at the St. Michael's Hospital, Lethbridge.

(e) Exercise "Pronto"—on 11th July. This was held in Edmonton and was the first official test of ACDHQ Mobile Communications units.

2. **Civil Defence Demonstrations.** Between March, 1954 and 31st December, 1958, twenty-one Civil Defence Demonstrations have been organized, the cost being borne mainly on a Federal-Provincial Matching Funds basis. Seven demonstrations were held in 1958, on Civil Defence Day, 19th September, as follows:

(a) City of Lethbridge
(b) City of Grande Prairie
(c) Town of Olds
(d) Town of Peace River
(e) Town of Athabasca
(f) Town of Claresholm
(g) County of Warner.

3. **Conferences**

(a) **Federal Conferences—at Federal Expense.** Up to the end of 1958, representatives from Alberta attended twenty-five Federal Conferences held at Arnprior. Of this number, four as specified hereunder were held during 1958:

(i) Directing Staff Conference—for Exercise "Co-operation II", 24/28 February.
(ii) Conference of Training Officer, 8/12 September.
(iii) Conference of Provincial Co-ordinators, 6/10 October.
(iv) Conference of Mayors and Reeves, 15/17 October.

(b) **U.S.A. Conferences—At Federal Expense.** Up to the end of 1958, representatives from Alberta attended fourteen FCDA Conferences held in the U.S.A.

(c) **Conferences Elsewhere in Canada—at Provincial Expense.** Up to the end of 1958, representatives from Alberta attended five conferences elsewhere in Canada.